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<td>Atul Bhasin (New Delhi) (2023)</td>
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- Editor-in-Chief, API: Milind Y Nadkar (Mumbai) (2022)
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- Interim Director, PRF: YP Munjal (Gurugram) (2022)

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Editor-in-Chief’s Message

Milind Y Nadkar
Editor-in-Chief: JAPI

Dear Esteemed Members of API,

I am delighted to forward this conference issue of APICON 2022. The scientific programme will commence with a CME programme for postgraduates and delegates. Dr. Rajesh Upadhyay, Dean Indian College of Physicians has drawn an excellent scientific programme catering to all the Delegates attending the conference. President-Elect Dr. Shyam Sundar has done a marvellous job by having Scientific programme. I am sure you will benefit by attending the same in large numbers.

This abstract issue highlights the CME and Scientific Programme of APICON 2022 to be held at Jaipur from 12th - 17th April, 2022. This programme will enable the attending delegates to have an overview and plan their scientific hall attendance well in advance. The conference issue of JAPI contains abstracts for platform presentation and list of poster presentations to be presented during APICON 2022.

The new Editorial team will take over from May 2022. All the members of the present Editorial Board have given me full support to bring out this abstract issue of JAPI in time. I thank all of them for their unstinted support especially during difficult time of COVID Pandemic. I also thank the members of Governing Body of API and Faculty Council Members of ICP for their support all throughout in discharging my duty as an Editor-in-Chief of JAPI. Last, but not the least, all you members for the continuous critical response to the betterment of the standard of the journal.

I thank the Editorial Board members, and the entire staff of JAPI and API and also each and every member of API for continuous support and guidance.

Wish you all very pleasant new experience of the APICON 2022 conference.
Hon. Gen. Secretary’s Message

Mangesh Tiwaskar
Hon. General Secretary

Dear Friends...

It gives me great pleasure and feeling of pride to forward this issue of JAPI with abstracts of free papers submitted for APICON 2022. As COVID fades away, during those challenging times of pandemic, the numbers of papers submitted for apicon 2022 speak volumes about the enthusiasm, perseverance and interest shown by the physicians across the country, especially from medical colleges, hospitals and medical research centres. It also highlights the importance given to research papers and paper presentations in APICONs. All delegates will surely be delighted to read these abstracts of this APICON 2022.

Also, the scientific program is printed in the JAPI April 2022 issue which will reach to members via JAPI website before the start of the APICON 2022. This will help the delegates to plan for sessions of their interest. This happened due to the relentless and thoughtful efforts of President elect – Dr. Shyam Sundar and Dean ICP Prof. Rajesh Upadhyay and editor-in-chief Prof. Dr. Milind Y. Nadkar. They jointly have spread a digital scientific feast before you all. I am sure you all will enjoy this scientific delicacy served at your homes or offices via digital connect.

Friends also note that Jaipur is the Pink City of India with a lot of beauty and must see places like Hawa Mahal, Amber Palace and City Palace. So plan your trip to Jaipur accordingly.

As Hon. General Secretary of our esteemed organization, this is my last message. I had a rich fulfilling learning experience. I had a great opportunity to work and interact with many stalwart physicians across India. I promise to try and give my best efforts to fulfill my obligations and expectations honestly, sincerely and as per the API Constitution as I will be getting ready to shoulder the responsibility of becoming Editor-in-chief of our flagship most widely well read journal - JAPI.

Thanks to all the relentless efforts of all the members of the JAPI editorial Board, especially our editor-in-Chief Dr. Milind Y. Nadkar.

I wish to specially thank Dr. Kamlesh Tewari, Dr. Shashank Joshi, Dr. YP Munjal, Dr. B. B. Thakur, Dr. Rajesh Upadhyaya, Dr. GS Wander, Dr. Jyotirmoy Pal, Dr. Girish Mathur, Dr. Alaka Deshpande, Prof. Dr. Milind Y. Nadkar, Dr. Agam Vora, all my seniors and all friends for all the selfless help and guidance.

I will fail in my duties if I do not bow my head in respect and humbleness to my mentor, path buster, guide Late Prof. Dr. Siddharth N Shah. It was his wisdom and farsightedness which has made my journey with API full of joy and learning.

Warm regards and wishing you all Very Happy and Healthy 2022.

Let’s all pledge to serve the society by upgrading our knowledge with the latest updates.

Long Live API...
President Elect Message

Shyam Sundar
President-Elect, API and Chairman Scientific Committee, APICON 2022

Dear Honourable Members of API,

Greetings from the Scientific Committee,

It is a great pleasure to welcome you all at APICON 2022 at Jaipur. Rajasthan is well known to be great host with the sentiments of “Padharo Mhare Desh” and I am sure you will enjoy the great hospitality of the Organizing Committee led by Prof. Puneet Saxena, the Organising Secretary and, Chairman Organising Committee, API stalwart Dr. KK Pareek and their team. It was a great experience working with them.

Unfortunately the covid scare led to several postponements of the conference, and now it is being held in the middle of April, though not an ideal weather, but the unmatched hospitality of the organisers will leave no stone unturned to look after the comfort of the guests.

The Scientific Program has been well designed with the theme of APICON “Cutting Edge Science in Medicine” in view, both CME and the main update programme has been prepared in tandem by Dean ICP Dr Rajesh Upadhyay and myself. There are more than 400 state of the art lectures, in addition to these, several symposia, panel discussion, CPC, workshop and many debates has been scheduled. The week of conference being during the Easter Holidays and travel restriction took its toll on the overseas participation and majority of the confirmed international speakers could not make it.

A large number of post-graduates have registered for the APICON, and we have about 240 free paper oral and about 600 posters will be presented in the special PG Sessions. An extended PG quiz session has also been organised. Unfortunately the dates of APICON are clashing with the MD examination dates in a significant number of medical institutions across the country, and thus many post-graduates opted out or cancelled their participation.

Overall we are in for a great scientific fiesta and I hope that this APICON 2022 will be a memorable one for years to come. I look forward to welcoming you at Jaipur, have a great experience.
Greetings to readers of JAPI!

I take this opportunity to welcome all of you to APICON 2022 which is being held in the picturesque city of Jaipur in Rajasthan, India. We have been amidst the COVID-19 pandemic for the last two years, and times have really been tough for everyone. After two years, we are having APICON 2022 in full physical format. We look forward to having you over at Jaipur and meet you personally. The weather is going to be enjoyable, and the hospitality wonderful. The Organising Committee Chairman, Dr. Pareek, and the Organising Secretary, Dr. Puneet Saxena, along with their team have worked very hard to organise the conference against all odds and restrictions imposed by the COVID-19 pandemic.

Indian College of Physicians (ICP) is the academic wing of API and in keeping with our mandate to promote and facilitate medical education we have worked hard for the dissemination of medical education nationwide throughout the year. In this tough COVID year we managed to covert the adversity into an opportunity for post graduate education and started the Masterclasses for the post graduate students. During my tenure more than 150 such programs have been held digitally throughout the country. The programs has been overwhelmingly appreciated and exceptionally well attended. This is a landmark achievement for the College.

The Scientific Programme of CME APICON 2022 has been prepared under my guidance as the Chairman, CME. The Chairman, Scientific Committee, Dr Shyam Sunder has framed the main scientific program and we have coordinated with the help of our teams to draft comprehensive programme which covers the latest developments in the field of Medicine. It is also in keeping with the theme of the Conference "Cutting edge science in Medicine". Catering to the scientific interest of delegates and updating the latest development in medicine has been the main focus. The speakers for the sessions are of national and international repute and care has also been taken to provide a platform for API members with academic interest to present their work. In addition, all contemporary topics have been well covered through lectures, symposia, debates, CPC, workshops, etc.

I’m sure the conference will be a great learning experience for all attendees. The CME is designed to cater to the postgraduates and includes topics which are important to them from their examination perspective and also in dealing with case-based scenarios. In fact, all delegates stand to gain from this plethora of knowledge being imparted during the programme.

I am sure the delegates will remember APICON 2022 for times to come, taking us out of our homes and cities to meet for this scientific extravaganza in an offline mode, paving the way back to normalcy after the COVID-19 pandemic.

Wishing everyone and their families a good health. Have an enjoyable, safe and healthy APICON 2022!
**Interim Director PRF’s Message**

Yash Pal Munjal  
Interim Director, Physicians Research Foundation

The world has witnessed tough times because of the COVID-19 pandemic. We have also witnessed a great loss in losing our beloved colleague and API stalwart, Dr. Siddharth N Shah, who was the Director PRF. I have taken over as Interim Director of the PRF because of such unforeseen circumstances, and the whole year was beset with unpredictability. PRF could not hold physical meetings during 2021-22 because of the tumultuous COVID-19 times, which has seen the Delta as well as the Omicron surges. With cases abating now, we hope to meet at the 2022 Jaipur APICON. Despite the COVID-19 pandemic and the restrictions, work has continued in form of various research grants. Generating Indian evidence from across the length and breadth of the country, has been one of the primary aims of PRF, and it remains committed to train physicians in research methodology and biostatistics apart from medical writing.

The Journal club started under guidance of Dr. G S Wander, Director-elect PRF has been a stupendous success, and raised the research aptitude among the API and physician fraternity many notches higher. I am sure it will get a fillip in the times to come. Thanks are due to the whole PRF team especially Dr Trupti Trivedi. I would like to acknowledge the support of Dr. Kamlesh Tewary, President API, Dr. Rajesh Upadhyay, Dean ICP, Dr. Mangesh Tiwaskar, Hony. Secretary API, Dr. BB Thakur, Dr. Arulrhaj, Dr. Shashank R Joshi, Dr. Charu Jani and all my fellow API members. The support lent by Mrs Sunita Shukla and API office also deserves special mention.

Long Live API, ICP and PRF.

Jai Hind!

---

**Dean-Elect ICP’s Message**

Alaka Deshpande  
Dean-Elect, Indian College of Physicians

It gives me a great pleasure to welcome you all for the 77th APICON at Jaipur. APICON is the National Platform to present your research work. It is heartening to see the response of our PGs and young scientists. Research methodology disciplines one’s thought process. I congratulate you all for your work.

In 2022-23, ICP plans CMEs on recent advances in medicine. I have planned monograms on contemporary clinical themes. I expect your active participation.

Wish you a successful APICON 2022!
Organising Secretary’s Message

Puneet Saxena
Organising Secretary, APICON 2022

APICON 2022 is finally taking shape at Jaipur from 14th to 17th April 2022. We are all geared up to host the 77th APICON at JECC Jaipur. This annual conference of Association of Physicians has been renowned for its science and the interest it generates from medical academicians, pharma and medical equipment manufacturing companies and this edition is no exception.

Being organized at one of the finest convention centers in the country – JECC Jaipur, the event has seen aggressive registration by delegates and is looking ahead to become the largest event being organized post COVID. With key physicians attending as speakers from the world over, the event will be remembered for its rigorous scientific deliberations, inspiring panel discussions and new approaches by the best medical brains in containing pandemics, communicable and non-communicable diseases.

With key international and national Physicians of repute joining, APICON 2022 is poised to be an academic feast for the participants who will find every speaker inspiring and omnipotent in his/her deliverables. The scientific programme offers great learning to all as it is carefully crafted by prominent and dedicated team of academicians who have spent months in putting it together. They continue to tweak the programme to make it better and better. We hope the participants go contented with the learning imparted during the convention.

The local organising committee is very pleased with the amazing response shown by the industry and due to their overwhelming support, is certain APICON 2022 will be a grand congregation. For the participants, the industry will showcase many new products, drugs, diagnostics and equipment that will throw light to noble treatment procedures.

We expect 7000+ participants in this event and is a must attend occasion for all physicians. Come savor the rich Rajasthani culture, Rajputana Hospitality, meet old friends and network for new ones along with cutting edge scientific learning.
In the management of Heart Failure and T2DM with multiple CV risk factors

EmilDap
Dapagliflozin 5mg/10mg Tablets
Empower Heart

In Hypertension associated with CHF – Post MI

Metrpure®-TEL
S(−)Metoprolol PR 25 mg & Telmisartan 20/40 mg Tablets
Controls Hypertension, Ensures Cardiac PROTECTION

In Hypertension with Diabetes,

Temsan®-AM
Telmisartan 40 mg & S(−)Amlodipine 2.5/5 mg Tablets
Swift BP Reduction, Assured Control
## TENTATIVE SCIENTIFIC PROGRAMME (APICON CME 2022)

### Day 1: Thrusday, 14th April 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>6.45-7.45</td>
<td>Inauguration of APICON 2022 (Hall A)</td>
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<tr>
<td>8.30-9.00</td>
<td>Inauguration and Launch of ICP-API Youtube Channel</td>
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<td>9.00-9.15</td>
<td>API, Telemedicine Guideline</td>
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<td><strong>Session 1: Honour Lecture</strong></td>
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<td><strong>Chairpersons:</strong> Shyam Sunder, GS Wander, AK Das</td>
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<tr>
<td>9.15-9.35</td>
<td>COVID 19 Research and ICMR</td>
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<td>9.35-9.55</td>
<td>Air Pollution and One’s Health</td>
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<td><strong>Session 2: Orations</strong></td>
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<td><strong>Chairpersons:</strong> Kamlesh Tewary, Pritam Gupta, KK Pareek</td>
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<tr>
<td>9.55-10.25</td>
<td>Rabindranath Tagore Oration - Intermittent fasting as therapy for Life-style and metabolic Disorders - Lesions from Blue Zones</td>
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<td><strong>Chairpersons:</strong> A Murganathan, Shashank Joshi, Alka Deshpandey</td>
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<tr>
<td>10.30-11.00</td>
<td>Dean ICP Oration &quot;Clinical Guidelines vs Practice-Bridging the Credibility Gap&quot;</td>
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<td><strong>Session 3: Honour Lecture</strong></td>
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<td><strong>Chairpersons:</strong> YP Munjai, BB Rewari, BB Thakur</td>
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<td></td>
<td>New frontiers in COVID-19 research</td>
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<td>Globalization of Medical Education</td>
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<td><strong>Chairpersons:</strong> Rajesh Upadhyay, G. Narsimulu, RK Singal</td>
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<tr>
<td>11.00-11.40</td>
<td>Key Note Address: Lessons learnt in clinical practice over 4 decades.</td>
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<td>12.00-12.40</td>
<td>GLP Symposium: Session 2</td>
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<td><strong>Chairpersons:</strong> Abhijat Seth, AP Misra, Anupam Prakash</td>
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<td><strong>Chairpersons:</strong> Kamlesh Tewary, Alka Deshpandey, Mangesh Tiwaskar</td>
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<td>13.30-14.00</td>
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<td><strong>Session 5</strong></td>
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<td><strong>Chairpersons:</strong> Girish Mathur, NP Singh, CL Nawal</td>
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<tr>
<td></td>
<td>Stroke Prevention in Atrial Fibrillation</td>
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<td>STEMI Management in India: Promising Role of Hub and Spoke Model</td>
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<td><strong>Complex High Risk PCI (CHIP) – A New Specialization in the Current Era</strong></td>
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<td><strong>Session 6</strong></td>
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<td><strong>Chairpersons:</strong> Jyotirmoy Pal, Mangesh Tiwaskar, YSN Raju</td>
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<td>Managing Snake Bite</td>
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<td>Cancer Management - “Present Perspective &amp; Future Directions”</td>
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<td><strong>Session 7</strong></td>
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<td><strong>Chairpersons:</strong> Sandhya Kamath, M P S Chawla, Ghanshyam Pangtey, Agam Vohra</td>
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<td></td>
<td>Expanding Horizon of SGLT2 inhibitors</td>
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<td><strong>Session 8: International Session</strong></td>
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<td><strong>Chairpersons:</strong> Milind Nadkar, NK Soni, Atul Bhasin, Anuj Maheshwari</td>
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<tr>
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<td>Justice, Equity, Diversity &amp; Inclusion in Medicine</td>
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<td><strong>Session 9</strong></td>
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<td><strong>Chairpersons:</strong> YP Munjai, BB Rewari, BB Thakur</td>
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<td><strong>Session 10</strong></td>
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<td></td>
<td><strong>Chairpersons:</strong> SK Wangnoo</td>
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<td></td>
<td>Addressing the unholy trinity of uncontrolled Hyperglycemia, Obesity and CVD with oral semaglutide</td>
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### Time Table

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<tr>
<td>2.20 - 3.00</td>
<td><strong>Session 1</strong></td>
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<td><strong>Chairpersons:</strong> Jyotirmoy Pal, Mangesh Tiwaskar, YSN Raju</td>
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### Hall B: Diabetes and Endocrinology: RM Kasliwal

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<th>Time</th>
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<tr>
<td>09.00-10.00</td>
<td><strong>Session 1</strong></td>
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<td><strong>Chairpersons:</strong> S Arulrajh, AP Misra, Anupam Prakash</td>
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<td>Effect of COVID Pandemic on PG Education</td>
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<td>14.00-15.00</td>
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<td>15.00-16.00</td>
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<td>16.00-17.00</td>
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<td>17.00-18.00</td>
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<td>18.00-19.00</td>
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<td>19.00-20.00</td>
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<td>21.00-22.00</td>
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<td>22.00-23.00</td>
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<td>23.00-24.00</td>
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<td>Time</td>
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<tr>
<td>12.00-01.00</td>
<td><strong>Session 4</strong></td>
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<td>12.00-12.15</td>
<td>An approach to osteoporosis</td>
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<td>Shriaram Mahadevan</td>
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<td>12.15-12.30</td>
<td>Pregnancy and Hyperparathyroidism</td>
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<td>Ajay Aggarwal</td>
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<td>02.30-12.45</td>
<td>Iodine supplementation- have we reached the point of more harm than good?</td>
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<td>Ashish Behera</td>
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<td>09:45-10.00</td>
<td>Endocrine Emergencies</td>
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<td>Saurabh Srivastava</td>
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<td>1.00-02.00</td>
<td><strong>Session 5</strong></td>
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<td>1.00-1.15</td>
<td>Secondary Diabetes</td>
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<td>RK Modi</td>
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<td>1.15-1.30</td>
<td>Prediabetes - beyond the tip of the iceberg</td>
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<td>Sarita Bajaj</td>
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<td>1.30-1.45</td>
<td>Cardiorenal axis in management of Diabetes</td>
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<td>Jantindar K Mokta</td>
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<td>01.45-02.00</td>
<td>Management of Diabetes in Fasting Conditions</td>
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<td>Prabhat Pandey</td>
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<td>02.00-3.00</td>
<td><strong>Session 6</strong></td>
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<td>02.00-02.15</td>
<td>Oral anti-diabetic drug cocktail</td>
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<td>AK Mukherjee</td>
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<td>02.15-02.30</td>
<td>Judicious use of other OADs in era of SGLT2 inhibitor – Which, When and Why</td>
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<td>Brij Mohan</td>
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<td>02.30-2.45</td>
<td>Metformin- old wine in new bottle</td>
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<td>Saurabh Chittora</td>
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<td>02.45-3.00</td>
<td>The Conundrum of Cardiometabolic risk in new onset T2DM: The ticking Clock</td>
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<td>Palaniappan Vinayagam</td>
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<td>03.00-04.00</td>
<td><strong>Session 7: Newer Generation Insulin Symposium</strong></td>
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<td>03.00-3.15</td>
<td>Art and science of insulin initiation with ultra-long acting basal insulin</td>
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<td>Sudhir Bhandari</td>
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<td>3.15-3.30</td>
<td>ARISE to indian reality of T2DM management: Achieving TOTAL control with</td>
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<td>Mohan Badgandi</td>
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<td>3.30-3.45</td>
<td>Insulin initiation case discussion: Case 1: Choosing the right basal</td>
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<td>Ankur Gahlot</td>
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<td>3.45-4.00</td>
<td>Over 10 decades of insulin innovation: Recognising the role of Gen 2.0</td>
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<td>Manoj Chawla Mumbai</td>
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<td>04.00-05.00</td>
<td><strong>Session 8</strong></td>
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<td>04.00-04.15</td>
<td>Continuous blood glucose monitoring</td>
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<td>Aarathy Kannan</td>
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<td>04.15-04.30</td>
<td>Management of Diabetes beyond HbA1C</td>
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<td>Jagdeep Chugh</td>
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<td>04.30-04.45</td>
<td>Clinical Application of Remoglifozin based therapy in T2DM Management</td>
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<td>Balaram Sharma</td>
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<td>04.45-05.00</td>
<td>The latest USFDA approved cardio safe gliptin – ALO-GLIPTIN</td>
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<td>Subhanakar Chowdhary</td>
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<td>05.00-06.00</td>
<td><strong>Session 9</strong></td>
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<td>05.15-05.30</td>
<td>Anemia in Diabetes</td>
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<td>Praveen Kalvit</td>
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<td>Diabetes fatigue syndrome</td>
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<td>Aradhana Sharma</td>
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**Time** | **Session 8** |
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09.00 - 10.00 | **Session 1** |
09.00-09.15 | Emerging Concepts in Treatment of Acute Pancreatitis |
Rajoo Singh Chhina |
09.15-09.30 | Exocrine pancreatic insufficiency (EPI) in diabetes |
Rupiyoti Talukdar |
09.30-09.45 | Long term PPI Therapy |
Ramesh Roop Rai |
09.45-10.00 | Current concepts in management of irritable bowel syndrome |
Uday Ghosal |
10-11.00 | **Session 2** |
10.00-10.15 | Newer pharmacotherapy options of NASH & NAFLD |
KT Shenoy |
10.15-10.30 | Current concepts in management of irritable bowel syndrome |
Uday Ghosal |
10.30-11.00 | **Session 3** |
11.00 -12.00 | Luminal gastroenterology Session |
11.00-11.15 | Upper GI Bleed in patients on anticoagulant and Anti-platelets |
Rajesh Natrayan |
11.15-11.30 | Unraveling small intestinal diseases - Update on Imaging and endoscopic techniques |
Ajay Kumar, BLK |
11.30-11.45 | Celiac Disease - When to suspect and How to Diagnose? |
MS Paul |
11.45-12.00 | Chronic constipation: Choosing an appropriate treatment |
Govind Makharia |
12.00 - 01.00 | **Session 4** |
12.00-12.15 | HCV Management in 2022 |
Kaushal madan |
12.15-12.30 | HBV Management in 2022 |
Sandeep Nijhawan |
12.30-12.45 | Drug and CAM induced Liver Injury |
Vishal Sharma |
12.45-01.00 | Spontaneous bacterial peritonitis |
Anup Kumar Das |
01.00 - 02.00 | **Session 5** |
01.00-01.15 | Medical nutrition therapy in metabolic disorder |
Mayank gupta |
01.15-01.30 | Food fortification- is it the solution for nutritional disorders! |
Ritu Karori |
01.30-01.45 | Cooking oils: Myths and Facts |
Pawan Suri |
01.45-02.00 | Vitamin D - A Hope or Hype |
Sanjay Dash |
02.00 -03.00 | **Session 6** |
02.00-02.15 | Malabsorption syndrome |
Ravi Kant |
02.15-02.30 | Bacterial overgrowth syndrome and its mimickers |
Bhaskar Nath |
02.30-02.45 | Hepatorenal Syndrome |
Harpreet Singh Thakral |
02.45-03.00 | Approach to acute Abdomen (Non Surgical) |
Ram Babu |
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<td>Autonomic neuropathy- pitfalls in diagnosis &amp; management</td>
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<td>Do functional Syndromes have a neurological substrate</td>
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<td>HSVE -1 Acute encephalitis and its association with neuro degenerative disorders</td>
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<td>Sun set for prednisolone and Avacopan on the Rising horizon</td>
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<td>Approach to a patient of coma</td>
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<td>Vagus nerve stimulation (VNS) : A Novel strategy for Epilepsy Management</td>
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<td>Approach to managing ring-enhancing lesions on the CT head</td>
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<td>White spots in Brain: Thinking beyond Multiple Sclerosis</td>
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<td>Role of Urine Analysis - liquid biopsy of the kidney</td>
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<td>Monoclonal Gammopathy of Renal Significance (MGRS) for physicians</td>
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<td>Approach to steroid resistant nephrotic syndrome</td>
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<td>Steroids in clinical practice- what to choose and why?</td>
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<td>Imaging the Inflammation and Atherosclerotic Plaque</td>
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<td>Management of STEMI in 2022: Thrombolysis is not Dead</td>
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<td>Ambulatory blood pressure monitoring - What is new Hypertension?</td>
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<td>Atherosclerotic cardiovascular risk reduction and reversal Murar Yelekar</td>
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<td>Statin intolerance - Current concepts</td>
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<td>Exercise schedule in prevention of ASCVD</td>
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<td>Chronic Coronary Syndrome: Current management strategies Manotosh Panja</td>
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<td>Asymptomatic AV block: When is pacemaker indicated? Ulhas Pandurangi, Chennai</td>
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<td>Approach to tachyarrhythmias</td>
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<td>Transforming cardiac care with artifical intelligence based ECG monitoring Ketan K Mehta</td>
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<td>Dilemma of treatment initiation in Diabetes</td>
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<td>Diabetes is not an Innocent Bystander But a Driver of Heartfailure Anant Nigam</td>
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<td>The Right GDMT For HFrEF Management:Need of the Hour Jitendra Makkar</td>
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<td>RHD - Jones criteria to armor - from bioscope to Netflix! Arati Dave Lalchandani</td>
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<td>Brucellosis in India</td>
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<td>Mathemediał Models in Predicting Epidemics: Our COVID Experience S Shankar</td>
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<td>Post- COVID Neurological syndrome - an UPDATE Amitesh Aggarwal</td>
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<td>Nitric Oxide Nasal Spray in Covid-19</td>
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<td>Evidence of antifibrotic use in Post covid Injury Sandeep Tak</td>
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<td>Malignant Pleural Effusion from bench to bedside Madhuchanda Kar</td>
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<td>Prime Time is Now : Lung Cancer Early Detection to improve survival outcomes Naresh Somani</td>
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<td>Opioid analgesics in Palliative Care Ashwin Mathur</td>
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<td>Advances in the field of hematopoietic stem cell transplantation, Hematology, Jaipur Hemant Malhotra</td>
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**Hall G: Pulmonary & Critical Care and TB, and Miscellaneous and Geriatrics: MJ Shah**

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<td>“Medically unexplained physical symptoms (MUPS)- Indian Perspective”</td>
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<td>Misuse of drugs in ICU</td>
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<td>Managing acute hypoxia- has our armamentarium broadened?</td>
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<td>02.45-03.00</td>
<td>Hypoglycaemia unawareness in elderly</td>
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<tr>
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<td>Amit Verma, Dehradun</td>
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<tr>
<td>03.00-04.00</td>
<td>Poisoning Session</td>
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<td>03.00-03.15</td>
<td>Approach to Acute Drug Overdoses and Intoxications</td>
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<td>Gursaran Sidhu</td>
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<tr>
<td>03.15-03.30</td>
<td>Celphos phosphide poisoning -newer strategies to improve survival</td>
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<tr>
<td></td>
<td>Kamlesh Agarwal</td>
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<tr>
<td>03.30-03.45</td>
<td>Obstructive Sleep Apnea and Comorbidities</td>
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<tr>
<td></td>
<td>Shivani Swami</td>
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<tr>
<td>03.45-04.00</td>
<td>Sleep Medicine and CVD risk</td>
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<td>Naveen Kishoria</td>
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<tr>
<td>04.00-05.00</td>
<td>Miscellaneous: Session 8</td>
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<tr>
<td>04.00-04.15</td>
<td>Understanding the coagulopathy in Trauma: Who, How and Why to Treat?</td>
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<td>Tanu Raj Sirohi</td>
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<tr>
<td>04.15-04.30</td>
<td>Online pharmacy V/S Nieghborhood store, Transformation in Indian Pharmacy system, Impact and adaption of Stakeholders.</td>
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<td>Dharmil Sheth</td>
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<td>Digitization in healthcare</td>
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**Thursday, 14th April, 2022**

**WORKSHOP**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>10.00-1.00</td>
<td>Research methodology workshop</td>
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<td>Resource Person: Rajnish Joshi</td>
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<td></td>
<td>Faculties: PP Joshi, Professor and Head General Medicine, AIIMS Nagpur, D Himanshu Reddy, Associate Professor, Medicine, KGMC Lucknow; Arumnozhimaran Elavarasi, Asst Professor Neurology, AIIMS New Delhi; Hardeep Malhotra</td>
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<tr>
<td>10.00-1.00</td>
<td>Joint Injection and Aspiration workshop</td>
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<td>Resource Person: SJ Gupta, Appolo Hospital Delhi</td>
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<td>Faculties: Akhil Goel, Jaipur; Padmanabhan Raghu, Chennai</td>
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<tr>
<td>2.00-5.00</td>
<td>Communication and Decision making in Medicine (Endorsed by NBE)</td>
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<td>Faculties: SN Basu; S Basu; Laxman Prabhu</td>
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<td>2.00-5.00</td>
<td>Echocardiography Workshop</td>
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<td>Resource Person: Ram Chittlangia, Nikhil, Rajeev Sharma</td>
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<td>2.00-5.00</td>
<td>Mechanical ventilation</td>
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<td>Resource Person: Pravin Amin, Dhruv Chaudhary, Khusrav Bajan, Sheila Nainan Maithra</td>
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<tr>
<td>10.00-1.00</td>
<td>Fluid Therpy and Nutrition in ICU</td>
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<td>Resource Person: Sanjay N Pandya, R RajSekhar, Bidita Khandelwal</td>
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<td>Insulin Workshop</td>
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<td>Introduction to Insulin - Who needs insulin and Why?</td>
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<td>Sandeep Suri</td>
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<td>Classification of insulin and insulin regimens - Which, When &amp; Why:</td>
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<td>Debasis Basu</td>
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<td>Simplifying insulin initiation in the context of indian realities</td>
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<td>Mayur Agrawal</td>
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<td>Getting it right: Practical aspects of insulinization</td>
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<td></td>
<td>M Shunmugavelu</td>
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Rich evidence in Indian patients with proven clinical superiority vs other combinations

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<tr>
<th>Key Parameters</th>
<th>Fexofenadine + Montelukast</th>
<th>Levocetizine + Montelukast</th>
<th>Bilastine + Montelukast</th>
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<td>Bioequivalence Published Data</td>
<td>YES</td>
<td>NO</td>
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<td>Synergistic effect</td>
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<td>YES</td>
<td>NO</td>
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<tr>
<td>Published efficacy data in Indian patients</td>
<td>92.5%</td>
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<td>Published safety data in Indian patients</td>
<td>9.6%</td>
<td>23.2%</td>
<td>No data</td>
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</table>

Reference

1. Walekar A, Chodankar D, Naqvi M, Trivedi C: Assessment of Bioequivalence of Fexofenadine and Montelukast Fixed Dose Combination Tablet Versus Separate Formulations of the Individual Components at the Same Dose Levels. Indian journal of pharmaceutical sciences, 2016, 78(5), 65656
4. Concomitant bilastine and montelukast as additive therapy for seasonal allergic rhinoconjunctivitis and mild-to-moderate asthma. The SKY study. 2019

### Tentative Scientific Programme (APICON 2022)

**Day 2: Friday, 15th April, 2022**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SUBJECT</th>
<th>HALL A : JIVRAJ MEHTA</th>
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<tbody>
<tr>
<td>8.30-9.00</td>
<td>Inauguration of Scientific Programme</td>
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<td></td>
<td><strong>Chairperson:</strong> Kamlesh Tewary, Arulraj Sundaram, Alaga Venkatesan</td>
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<tr>
<td>9.00-9.30</td>
<td>Heart of the Liver (Inaugural Lecture)</td>
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<td><strong>Chairperson:</strong> Shiv K Sarin</td>
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<tr>
<td>9.30-10.00</td>
<td>Diabetes care in india - where we were, where we are and where we should be? Netaji Oration Banshi Saboo</td>
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<td><strong>Chairpersons:</strong> KK Pareek, Shashank R Joshi, Ankit Shrivastav</td>
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<td>10.00-10.30</td>
<td>Presidential Oration - Kala-azar From One month to a single dose treatment</td>
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<td><strong>Chairpersons:</strong> YP Munjal, Rajesh Upadhyay, Gowri Sankar</td>
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<td>11.00-11.25</td>
<td>Life style modification in non-communicable diseases</td>
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<td><strong>Chairpersons:</strong> BB Thakur</td>
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<td>11.25-11.45</td>
<td>Lifestyle in a Pill</td>
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<td><strong>Chairpersons:</strong> Sandhya Kamath, CB Prasad, Alok Gupta</td>
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<td>11.45-12.10</td>
<td>Immunity against pathogens</td>
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<td><strong>Chairpersons:</strong> Jyotirmoy Pal</td>
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<td>12.10-12.50</td>
<td>Hemant Thacker</td>
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<td><strong>Chairpersons:</strong> PC Manoria, Ajay Mathur, Chandan Kedawat</td>
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<td>12.50-1.15</td>
<td>Liposomal amphothericin B in saline - Indian innovation for treatment of Visceral Leishmaniasis - Coelho Memorial Lectureship in Experimental Medicine RP Goswami</td>
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<td>1.15-1.35</td>
<td>Secondary Hypertension</td>
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<td><strong>Chairpersons:</strong> Govindappa, Harbir Kaur Rao, Anima Sharma</td>
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<tr>
<td>1.35-1.55</td>
<td>Importance of hypertension clinics in India</td>
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<td><strong>Chairpersons:</strong> Kamilsh Tewary</td>
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<td>1.55-2.15</td>
<td>Hypertension and Dementia</td>
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<td><strong>Chairpersons:</strong> Venkat Ram</td>
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<th>HALL A : JIVRAJ MEHTA</th>
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<tr>
<td>2.15-2.35</td>
<td>Evidence does not make decisions, people do!</td>
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<td><strong>Chairpersons:</strong> Roman Jaseschke</td>
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<td>2.35-2.55</td>
<td>Lipitension- The interaction between Dyslipidemia and hypertension</td>
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<td><strong>Chairpersons:</strong> Girish Mathur</td>
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<td>2.55-3.15</td>
<td>Management of refractory hypertension</td>
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<td><strong>Chairpersons:</strong> KK Pareek</td>
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<td>3.15-3.40</td>
<td>The Unmasking of Specialism- Lessons from the Pandemic - Dr V Parameshwara life time achievement Award</td>
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<td><strong>Chairpersons:</strong> Ashish K Thakur</td>
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<td>3.40-4.05</td>
<td>Artificial Intelligence in healthcare - An update and recent advances</td>
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<td><strong>Chairpersons:</strong> Tanu S Pandey</td>
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<td>4.05-4.30</td>
<td>Early detection of developmental concerns</td>
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<td><strong>Chairpersons:</strong> Sam Lingam</td>
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<tr>
<td>9.00-9.20</td>
<td>Demystifying LDL goals in dyslipidemia for ASCVD reduction</td>
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<td><strong>Chairpersons:</strong> PC Manoria</td>
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<td>9.20-9.40</td>
<td>Cholestrol - An Innocent Bystander and the other side of Statins</td>
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<td><strong>Chairpersons:</strong> Subrahmanyam Karuturi</td>
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<td>9.40-10.00</td>
<td>Carotid, vertebral and intracranial stenosis - management update</td>
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<td><strong>Chairpersons:</strong> Vipul Gupta</td>
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<td>10.00-10.20</td>
<td>“Pharmacological Intervention in preventing ASCVD-Benefits beyond BP control”</td>
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<td><strong>Chairpersons:</strong> N K Soni</td>
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<td>10.20-10.40</td>
<td>CT Coronary angiography or Stress testing : Choice for Screening</td>
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<td><strong>Chairpersons:</strong> DP Chakraborty</td>
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<td>10.40-11.00</td>
<td>Dyslipidemia - what is new in management</td>
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<td><strong>Chairpersons:</strong> Arvind Gupta</td>
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<td>11.00-11.25</td>
<td>Heart Failure - A Sea Face change in management</td>
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<td><strong>Chairpersons:</strong> Lekha Pathak</td>
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<td>Chairpersons: Soumitra Ghosh, Ripun Borpuzari, Avijit Royzada</td>
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<td>11.25-11.45</td>
<td>Non-pharmacological management of Hypertension Saket Goyal</td>
<td>10.00-10.20</td>
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<td>11.45-12.05</td>
<td>Hyperaldosteronism - An update Kamal Kumar Sawlani</td>
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<td>12.05-12.25</td>
<td>Hypertension Guidelines - Global v/s Indian Sandhya Kamath</td>
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<td>Chairpersons: AN Rai, Charu Jani, Alok Kumar Singh</td>
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<td>12.25-12.45</td>
<td>Post bypass angioplasty : Challenges Vivek Gupta</td>
<td>11.00-11.20</td>
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<td>12.45-1.05</td>
<td>Complex PCI issues Viveka Kumar</td>
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<td>1.05-1.25</td>
<td>Intracoronary imaging for complex PCI is it essential Balbir Singh</td>
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<td>Chairpersons: AM Bhagwati, Anuradha Deuri, BK Malpani</td>
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<td>1.25-1.45</td>
<td>Recognition and management of pulmonary embolism in 2022 Amrish Agrawal</td>
<td>12.00-12.20</td>
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<td>1.45-2.05</td>
<td>Connective Tissue Disease Associated Pulmonary Arterial Hypertension Nirmal Gargabatu</td>
<td>12.20-12.40</td>
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<td>2.05-2.25</td>
<td>Update in Eisenmenger syndrome S Ramakrishnan</td>
<td>12.40-1.00</td>
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<td>Chairpersons: R Rajasekar, Animesh Deb, BL Saini</td>
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<td>2.25-2.45</td>
<td>Early repolarization : The red alerts SB Gupta</td>
<td>1.00-1.20</td>
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<td>2.45-3.05</td>
<td>Novel pacing strategies - His bundle, LBB pacing Shumuga Sundaram</td>
<td>1.20-1.40</td>
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<td>3.05-3.25</td>
<td>Ventricular Tachycardia storm : what beyond medical therapy ? Ashish Nabar</td>
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<td>Chairpersons: MPS Chawla, Smita Das, Bharat Saboo</td>
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<td>3.25-3.45</td>
<td>Medicine cross talk : Antidiabetic and Cardiovascular drugs Dharmarajan Panneerselvam</td>
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<td>3.45-4.05</td>
<td>Secondary prevention CVD in primary care level Supriyo Mukherjee</td>
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<td>4.05-4.25</td>
<td>Small vessel coronary artery disease : Treatment options in those with no options Girish Verma</td>
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<td>Chairpersons: Ghanshyam Pangtey, SPS Subrahmanian, CK Meena</td>
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<td>4.25-4.45</td>
<td>Metabolic risk factors of Cardiovascular disorders Dhiraj Kishore</td>
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<td>4.45-5.05</td>
<td>Non pharmacological management of atrial fibrillation Rajiv Krishna</td>
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<td>4.00-4.20</td>
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<td>9.00-9.20</td>
<td>Covid &amp; Hemophagocytic lymphohistiocytosis (HLH) Himanshu D</td>
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<td>9.40-10.00</td>
<td>Pharmacological interventions in Covid19 management SK Sharma Delhi</td>
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### TIME | HALL C : MR GURUSWAMI
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#### SUBJECT
Debate Covid Vaccine
Chairpersons: Bharat Bhushan Rewari, Sarat Singh, Brijesh Kumar, Varinder Kumar Noheria

4.20 – 4.50 | COVID 19 vaccination - Saviour of the world ???
Shyamala Menon

4.20 – 4.50 | COVID 19 vaccination - Saviour of the world ???
Anil NX

4.20 – 4.50 | COVID 19 vaccination - Saviour of the world ???
Geetha Philips

4.50 – 5.10 | Covid vaccines - which one to use in India
Padma Venkatsubramanian

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### TIME | HALL D : MC GUPTA
--- | ---
#### SUBJECT
Chairpersons: Sudhir Mehta, Rahul Kumar, G Devpura

9.00 – 9.20 | Occupational Lung diseases - Indian perspective
M Sabir

9.20 – 9.40 | Carcinoma of lung
D Behera

9.40 – 10.00 | Non Invasive Ventilatory Strategies in medical ICU
Atul Bhasin

Chairpersons: Munish Prabhakar, Sajid Ansari, Gautam Bhandari

10.00 – 10.20 | Newer insights in Obstructive Sleep Apnoea
Puneet Khanna

10.20 – 10.40 | Pulmonary Embolism - current treatments Guidelines
CL Nawal

10.40 – 11.00 | Treatment of Interstitial lung diseases
Arjun Khanna

Chairpersons: Sekhar Chakraborty, Arindam Dutta, Bharatbhusanms

11.00 – 11.20 | Biologics in Asthma
Agam vora

11.20 – 11.40 | Macrolides in Asthma
Deepti Sharma

11.40 – 12.00 | Steroids in bronchial asthma
Lakshmi Kasirajan

Chairpersons: S Sreenivas Kamath, Murgesh Pastapur, Hemant Gwalani

12.00 – 12.20 | Diagnostic dilemma and management of small airway disease
AG Ghoshal

12.20 – 12.40 | Aetiopathogenesis and physiology of Obstructive sleep apnea
Jalees Fatma

12.40 – 1.00 | Management of Chronic Colonisers in Bronchiectasis
Sanjay Tandon

Chairpersons: Abhishek Agarwal, Amit Kumar Das, Jagdish Visnoi

1.00 – 1.20 | Management of COPD and update
Prem Gupta

1.20 – 1.40 | Management of acute respiratory failure in ICU
Dhruba Chaudhry

1.40 – 2.00 | Recent advances in the treatment of progressive fibrosing ILD
Deependra Rai

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### TIME | HALL D : MC GUPTA
--- | ---
#### SUBJECT
Chairpersons: K Mugundhan, Usha Sekkizhar, VB Singh

2.00 – 2.20 | Systemic manifestations of COPD
Gaurav Singhal

2.20 – 2.40 | COPD revisit in 2022
Sanjay Kumar

2.40 – 3.00 | Asthma and COPD - overlap syndrome
Saurabh Karmakar

Chairpersons: Udai Lal, RK Jha, Mahesh Dave

3.00 – 3.20 | ILD with special emphasis on Pulmonary functions
Raja Dhar

3.20 – 3.40 | Air Pollution and diseases
PS Shankar

3.40 – 4.00 | Latent tuberculosis - indian scenario
DP Singh

Chairpersons: Nihar Mehta, Shubhransu Patro, L Harshwardhan

4.00 – 4.20 | Intresting pearls in Tuberculosis
Rajendra Prasad

4.20 – 4.40 | Tubercular meningitis - Challenges in management
Abhishek Kumar

4.40 – 5.00 | Advances in the management in patient with extensive blood loss
Anil Gulati

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### TIME | HALL E : COL. AMIR CHAND
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#### SUBJECT
Chairpersons: Sanjay Kochar, Naveen Kishoria, LK Goyal

9.00 – 9.20 | Motor neuron disease: An Update
PK Maheshwari

9.20 – 9.40 | Flow diverters for aneurysms
Vikram Huded

9.40 – 10.00 | Paraneoplastic Disorders of nervous system
Mugundhan K

Chairpersons: Jayanta Kumar Panda, Sanjivani Kotecha, Sandeep Tak

10.00 – 10.20 | Role of Mobile application in Epilepsy
Man Mohan Mehndiratta

10.20 – 10.40 | Drug Resistant Epilepsy : way ahead
Sudhir Chandra Jha

10.40 – 11.00 | SV2A ligands in epilepsy and beyond
Shanmugam Sundar

Chairpersons: Narayan G Deogaonkar, Vishrant Bharti, Mani Kothari

11.00 – 11.20 | Trigeminal autonomic cephalgias : Recent advances
V Shankar

11.20 – 11.40 | Current concepts of Idiopathic intracranial hypertension
Rajesh Shankar Iyer

11.40 – 12.00 | Robotics in Neurology
Vaibhav Shukla

Chairpersons: V Palaniappam, Ajay Kukreja, Mani Ram Kumhar

12.00 – 12.20 | Approach to movement disorders
CT Suresh

12.20 – 12.40 | Autoimmune movement disorders
RM Kandadai

12.40 – 1.00 | CNS demyelination - MOG antibody disease
Uddalak Chakraborty
**TIME** | **HALL E : COL. AMIR CHAND**
--- | ---
**SUBJECT** | **Chairpersons:** RM Chhabra, Ashish Kakaria, Aravinda Jagdish
1.00-1.20 | sexual disorders in neurological practice
| Ambar Chakravarthy
1.20-1.40 | PET - CT for physicians
| Deepenanjan Mitra
1.40-2.00 | Primary CNS vasculitis - An overview
| Nandini Chatterjee
**Chairpersons:** Naval Chandra, Harshwardhan Joshi, Mukesh Gupta
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| Khalid
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4.20-4.40 | Multiple Sclerosis - State of the Art
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| Akshay Chhallani
11.30-11.45 | Treatment of SEPSIS beyond antibiotics
| Nikhilshwar Verma
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| Ashok Kumar
12.20-12.40 | Drug resistance in Parasitic Diseases
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2.20-2.40 | Is Miltefosine still better than AmBisome in the treatment of PKDL?
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| Nagarajan Venkataraman
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| KC Shashidhara
4.40-5.00 | Advances in Leptospirosis
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| Sailesh Lodha
9.20-9.40 | Issues in clinical practice in India
| RM Chhabra
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3.20-3.40 | Hypoglycemia - Causes and management Vineet Kumar Garg
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4.20-4.40 | Management of Pubertal disorders - An update Minal Mohit
4.40-5.00 | Thyroid Function Tests in Chronic Diseases - an unsolved puzzle V Palanikumaran

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1.25-1.45 | Emerging therapeutic targets in Systemic Sclerosis Asish Mondal
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1.25-1.45 | An Insight into sjogren's syndrome Smita Gupta
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9.20-9.40 | An Insight into sjogren's syndrome Smita Gupta
9.40-10.00 | Sarcoidosis : A great imitator Anjana Pandey

**SUBJECT** | **Chairpersons: Vinod Ravindran, Navneet Kumar, GR Subbu**
3.05-3.25 | Rheumatological manifestations of systemic diseases Vikram Londhey
3.25-3.45 | Targeted synthetic DMARDS in rheumatological disorders Pulin Gupta
3.45-4.05 | Enteropathic Arthitides Harpreet Singh

**SUBJECT** | **Chairpersons: Vishwanath Krishnamurthy, Sudhir Kumar, Vishal Gupta**
9.00-9.20 | Infections and accelerated ageing VK Shashindran
9.20-9.45 | Alterations of Human Host by Malaria Parasites: Molecular Mechanisms to Clinical Implications -Dr PJ Mehta Oratioin Manoj Kr Mohapatra
9.45-10.05 | Current Guidelines on the treatment of malaria Santosh Kumar Swain

**SUBJECT** | **Chairpersons: Saikat Datta, Manoj Kr Mohapatra, Ajay Kumar Gupta, URK Rao**
10.05-10.25 | Vaccine against Malaria..where do we stand? Biranchi N Mohapatra
10.25-10.45 | Is Vivax malaria benign? PK Sinha
10.45-11.05 | Artimesinine resistance in Malaria - An ominous sign Amit Kalwar

### TIME | HALL F : BC ROY
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**SUBJECT** | **Chairpersons: Ramesh Prabhu, Srikumar Pradhan, Anirbanda Pal**
11.05-11.25 | How to select and sequence drugs in Rheumatoid Arthritis? Rohini Handa
11.25-11.45 | First choice ULT in Gout- Febuxostat or Allopurinol - What does the evidence say? URK Rao
11.25-12.45 | AS or axial SpA, Radiographic or Non radiographic- What is there in a name? Sakir Ahmed
12.45-1.05 | Cyclophosphamide - When and how to use in current Rheumatology practice? Aman Sharma
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<tr>
<td>12.05-12.25</td>
<td>Rabies - Recent advancement in the management of Rabies</td>
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<td>Akshay Challani, Atanu Chandra, BK Mahavarkar</td>
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<td>12.25-12.45</td>
<td>National Leprosy Elimination Programme</td>
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<td>12.45-1.05</td>
<td>Approach to managing fever syndromes</td>
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<td>1.05-1.25</td>
<td>Scrub typhus - a ticking timebomb</td>
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<td>Infectious Disease crisis in the tropics</td>
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<td>Treatment of XDR Tuberculosis - An update</td>
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<td>Recent advances in antifungal therapy</td>
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<td>3.45-4.05</td>
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<td>Increasing Septic encephalopathy in ICU</td>
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<td>Lancet Commission on Diagnostics: Advancing equitable access to diagnostics</td>
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<td>Telemedicine - the evolving health delivery</td>
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<td>Sleep: Quality, Quantity &amp; health</td>
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<td>Holistic health care approach Through sahaj Yoga - A need of this era</td>
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<td>Osteoporosis - Vitamin D Deficiency</td>
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<td>Circadian Rhythms and metabolic diseases</td>
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<td>Heavy metal neurotoxicity</td>
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<td>Current Perspective on Ethics in Medical Practice</td>
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<td>2.20-2.40</td>
<td>Aspirin resistance : Wise to wide prescription</td>
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<td>Transplant Bone Disease - An Update</td>
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<td>Premature Ejaculation - An enigma</td>
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<td>Hospital acquired UTI - An update</td>
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<td>3.40-4.00</td>
<td>Community Acquired AKI and its management</td>
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<td>4.00-4.20</td>
<td>IgA nephropathy - A tale of missed opportunity</td>
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<td>Cardiovascular outcomes with long term hemodialysis</td>
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<td>4.40-5.00</td>
<td>Kidney transplantation during COVID times</td>
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### Day 4: Sunday, 17th April, 2022

#### TIME | HALL A : JIVRAJ MEHTA
---|---
9.00-9.20 | 100 years of insulin  
**Chairpersons:** Sunil Bansal, Ashish Saxena, Atul Mehrotra

9.20-9.40 | Insulin in next 100 years  
**Chairpersons:** Prakash Govindasamy

9.40-10.00 | β-cell death: Fact or fiction  
**Chairpersons:** M Shunmugavelu

10.00-10.20 | Diabetes care moving from glucocentricity to patentcentricity  
**Chairpersons:** Prasad Seshadri

10.20-10.40 | “Exercise in Diabetes”  
**Chairpersons:** Manoj Saluja

10.40-11.00 | Diabetes prevention at the school level  
**Chairpersons:** DK Hazra

11.00-11.20 | Diabetic Autonomic Neuropathy: Cardiac Nightmare  
**Chairpersons:** Atanu Ghosh

11.20-11.55 | Sunil Bansal

11.55-12.20 | Diabetic Autonomic Neuropathy: Cardiac Nightmare  
**Chairpersons:** M Shunmugavelu

#### TIME | HALL B : RM KASLIWAL
---|---
11.00-11.20 | Clinching diagnosis in multiple myeloma  
**Chairpersons:** Swati Pai, HS Pathak, Vipul Chawda

11.20-11.40 | Treatment of idiopathic aplastic anaemia  
**Chairpersons:** Tuphan Kanti Dolai

11.40-12.00 | Targeted therapy in CLL: Moving away from chemotherapy  
**Chairpersons:** AK Tripathi

12.00-12.20 | Optimise CML management in 2022  
**Chairpersons:** Lalatendu Mohanty, AP Dubey, Vijay Kapoor

12.20-12.40 | Approach to management of hemolytic anemias  
**Chairpersons:** Ritika Sud

12.40-1.00 | Myelodysplastic syndrome - update on diagnosis & treatment  
**Chairpersons:** Dwijen Das

1.00-1.30 | Mixed Bag  
**Chairpersons:** Ashutosh Chaturvedi, Namita Mohapatra, Ajay Duseja

9.00-9.20 | Application of NexGen sequencing in the diagnosis of Endocrine Hypertension  
**Chairpersons:** Sandeep K Mathur

9.20-9.40 | Isolated systolic hypertension  
**Chairpersons:** Jai Bhagwan

9.40-10.00 | Diuretics in hypertension - An Update  
**Chairpersons:** Santosh Salagre

10.00-10.20 | Management of Systemic Hypertension: A facile approach  
**Chairpersons:** Rajasekar Ramnathan

10.20-10.40 | “Hypertension in Elderly: 10 things You need to know”  
**Chairpersons:** Ashutosh Chaturvedi

11.00-11.20 | Is NAFLD the harbinger of Metabolic Syndrome/Pre Diabetes?  
**Chairpersons:** Rajiv Kovil

11.20-11.40 | Looming epidemic of NAFLD: Early diagnosis is a call to action  
**Chairpersons:** Suranga Manilgama

11.40-12.00 | Current & Future pharmacological treatment in NAFLD/NASH - Symposium  
**Chairpersons:** Gagan Gunjan

12.00-12.20 | The harbinger of Metabolic Syndrome/Pre Diabetes?  
**Chairpersons:** Ajay Mittal

12.20-12.40 | Ulcerative colitis – treatment beyond Anti-TNF agents  
**Chairpersons:** Bhaskar Jyoti Baruah

12.40-1.00 | Budd chiari syndrome  
**Chairpersons:** Shubhransu Patro

13.00-13.30 | Elliptocytosis in Sickle Cell patients  
**Chairpersons:** Hardev Chopra, Pratat Saha, Niladri Sarkar
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<td>Chairpersons: Subhal Dixit, Kartik Ch. Rout, Supriyo Sarkar</td>
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<td>9.00-9.20 Acute complications of Alcohol intoxication in ICU P Paranthaman</td>
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<td>9.20-9.40 Management of undifferentiated shock Geetha Thirumalnesan</td>
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<td>9.40-10.00 Shock classification : Does it predict outcome ? Role of support devices in management of shock Tapas Bandyopadhyay</td>
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<td>Chairpersons: Srudhananda Mohapatra, LK Meher, Nandini Chatterjee, MK Parashar</td>
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<td>10.00-10.20</td>
<td>Interstitial Lung Disease - An Update GD Ramchandani</td>
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<td>NIV and nutrition Subhal Dixit</td>
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<td>10.40-11.00</td>
<td>Community acquired pneumonia - An update Kaushik Hazra</td>
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<td>11.00-11.20</td>
<td>Diagnostic Challenges in Extra pulmonary Tuberculosis Manish Kumar</td>
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<td>Debate Experience vs Evidence Based Medicine</td>
<td>Chairpersons: Rohit Bansal, Nikhileshwar Verma</td>
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<td>Experience vs Evidence Based Medicine A Rajalakshmi</td>
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<td>11.20-12.00</td>
<td>Experience vs Evidence Based Medicine Ashish Goel</td>
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<td>Chairpersons: Sanjay Dash</td>
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<td>Experience vs Evidence Based Medicine Nitin Bansal</td>
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<td>12.00-1.00 Point of care ultrasound - bringing diagnostic armamentarium to bedside- workshop Vivek Kumar</td>
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<td>Chairpersons: Sanjib Bandyopadhyay, Yogita Pendurkar, Top Singh</td>
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<td>10.30-10.50</td>
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<td>10.50-11.10 Rest or exercise in Myasthenia Gravis RESTOREX trial UK Misra</td>
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<td>11.10-11.30 Idiopathic inflammatory Myositis Renu Saigal</td>
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<td>11.30-11.50 Angina with Normal Epicardial Coronary Arteries: What should We do? SM Mustafa Zaman</td>
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<td>12.20-12.40 Resurgence of β blocker Prabhat Pandey</td>
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<td>12.40-1.00 pharmacotherapy in Heart failure with low EF Suresh Sagadar</td>
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<td>Chairpersons: Amartya Misra, Suranjana Basak, Rajeev Gupta</td>
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<td>9.00-9.20</td>
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<td>9.20-9.40 Ethambutol induced ocular toxicity : what the physian should know Alladi Mohan</td>
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<td>10.00-10.25</td>
<td>My sailing boat and the Dengue rise in stormy seas over 25 years of my journey - GS Sainani Oration</td>
<td>10.25-10.45 Complications of dengue hemmorhagic fever in Symposium Rajeev Gupta</td>
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<td>10.45-11.05</td>
<td>Atypical manifestations of dengue in the Symposium Vasantha Kamath</td>
<td>11.05 - 11.25 Platelets in Dengue (in symposium) Sriprasad Mohanty</td>
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<td>11.25-11.45 Biomarkers in Dengue - An update Vishwanath Krishnamurthy</td>
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<td>11.45-12.05 Lessons Learnt From Covid Pandemic and ideas for Future Preparednes SK Gupta</td>
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<td>12.25-12.45</td>
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<td>12.45-1.05 Melioidosis : Unravelling The Enigma Debate ? Kavitha Saravu</td>
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### TIME HALL G : MJ SHAH

**SUBJECT**

**Chairpersons:** AK Singh, Dhiraj Kishore, Srikanth Hegde

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<td>Reversible Dementia</td>
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<td>Fraility syndrome</td>
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<td>Dementia in elderly - An update</td>
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**Chairpersons:** Jugal Kishor Sharma, Alok Mody, Aradhana Singh, Mrinal Roy

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<td>Relevance of Respiratory Vaccines for older adults during corona pandemic</td>
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<td>Approach to recurrent falls in the elderly</td>
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<td>10.40-11.00</td>
<td>Nuclear medicine in secondary hypertension</td>
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**Chairpersons:** OP Sharma, Kauser Usman, Meenaxi Sharda

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<td>Immunomodulation in Elderly</td>
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<td>Hormones in Aging</td>
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<td>Beyond aches and pains in geriatrics</td>
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### Update Mobile Number / Email Id

Members are requested to update their address, mobile numbers and email ID. All are requested to send the above details to the Hon. General Secretary of API for postage of JAPI, API communications by email to api.hdo@gmail.com.

Dr. Mangesh Tiwaskar
Hon. General Secretary

---

**VR Joshi API Award for Outstanding Referee for the Year 2021**

- Dr. Atul Kakar, New Delhi
- Dr. M Premanath, Mysuru
- Rajesh Gopalakrishna, Kochi
A Study of Association of Plasma Procalcitonin with Various Components of Metabolic Syndrome and Insulin Resistance

Aditya Vyas, Prakash Keswani, Shrikant Sharma, Manish Khandelwal, Munniilal Pilanya, Ramji Sharma
Sawai Man Singh Medical College, Jaipur

The metabolic syndrome is a cluster of risk factors that are associated with increased risk of cardiovascular diseases and Type 2 diabetes mellitus. The aim was to study the association of plasma procalcitonin with complications of metabolic syndrome at presentation.

Material: This was a hospital based observational comparative study of metabolic syndrome in hospital wards and OPD of SMS Medical College, Jaipur and 30 accompanying healthy controls.

Exclusion criteria: Individuals with active infection, trauma, surgery, neoplasms, cirrhosis, autoimmunity and autoimmune diseases or taking medications which can alter the biochemical profile. Detailed history was taken, subjects clinically examined and anthropometric measurements were taken. Required investigations were obtained and statistical analysis performed.

Observation: Plasma procalcitonin was significantly higher in cases (mean 0.11 ng/ml) compared to controls (mean 0.02 ng/ml) and sample size of 100 subjects was considered significant. Clinical and biochemical parameters were noted. Among the case group, 154 subjects were finally selected as the study group.

Conclusion: Plasma procalcitonin may serve as a new marker for adipocyte dysfunction, chronic low-grade inflammation, or both.

The Prevalence of Thyroid Diseases in Pregnancy and its Relation to Iron Deficiency - A Hospital Based Study

Savitri V, Mahesh M, Madhav B
JSS Medical College, Mysuru

The thyroid gland and its function are both affected physiologically by pregnancy. During pregnancy, the thyroid gland expands by 10% in iodine-sufficient women and to a higher extent in iodine-deficient women. Anemia is a worldwide health problem affecting 33% of non-pregnant women and 38% of pregnant women. According to Western literature, the prevalence of hypothyroidism in pregnancy is roughly 2%. In India, there are few reports of prevalence of hypothyroidism during pregnancy, with prevalence rates ranging from 4.8 percent to 13 percent. Hypothyroidism may be missed in cases where it is subclinical. There were only few studies in India regarding this, hence this study was carried out with objectives of 1) To assess the prevalence of thyroid diseases in pregnancy 2) To evaluate association between iron deficiency and thyroid disorders in early pregnancy.

Material: This was a cross sectional study conducted between Jan 2017 to June 2019 at JSS Hospital, a tertiary care hospital in Mysuru. 500 consecutive pregnant women aged 18-45 years with gestation of pregnancy were recruited. Under all aseptic precautions, venous blood of about 5ml was drawn and sent for analysis of TSH, T3, T4, Anti TPO antibody and Serum Ferritin, which were measured by chemiluminescence method for all pregnant women. TSH value>2.5 but less than or equal to 10 was considered as having subclinical hypothyroidism, TSH value>10 irrespective of T4 values and TSH value>2.5 with low T4 values were considered to have overt Hypothyroidism (American Thyroid Association and National Guidelines).

Observation: Out of 500 women, 9 were excluded because of pre analytical error, hence there were 491 pregnant women in the study. Among 491 pregnant women, 156 (31.77%) were hypothyroid and 7 (1.42%) had hyperthyroidism. Among 156 Hypothyroid women, 95 (57.1%) had overt hypothyroidism and 147 (94.23%) had subclinical hypothyroidism. Predominant symptom in Hypothyroid women was fatigue (35.6%) followed by hair loss (31.7%), cold intolerance (16.9%), dry skin (6.72%), constipation (2.65%), weight gain (2.24%) and poor memory (0.24%). Goitre was present in 106 (41%) women. Among 491 pregnant women, 211 (42.9%) had iron deficiency and 280 (57%) had normal ferritin. Among 156 hypothyroid women, 60 (38.4%) had low ferritin and 96 (61.53%) had normal ferritin. Chi square analysis did not show any significant association between iron deficiency and hypothyroidism (p value of 0.168).

Conclusion: The prevalence of hypothyroidism was very high in our setting compared to that seen in other published reports that is 31% of pregnant women. There is a need to assess association found between hypothyroidism and iron deficiency in this study.

Different Cases of Short Stature
Sathyanarayanan, Ramkumar, Samuel Dinesh
Madras Medical College, Chennai

This case series gives three different cases with three different presentation and different approaches to a patient with short stature.

Material: CASE 1: A 13 Year old female brought by her parents with complaints of decreased height appropriate for age. O/E height - 127cm(<-3SD), weight 42kg, MPHY - 150cm, and span to height ratio was normal. Secondary sexual characters - Tanner stage 1. X-ray hand with wrist - bone age of 17 years. TFFT - within normal limits. MRI pituitary - normal study. Patient suspected to have isolated growth hormone deficiency. Growth hormone stimulation test done after sex steroid priming which showed results of growth hormone deficiency. Patient started on 1.5mg growth hormone s/c per day.

CASE 2: A 18 year old boy brought by his parents with complaints of decreased height appropriate for age and absence of facial, axillary and pubic hair. O/E height - 145cm, weight 55kg, MPHY - 165cm, arm span to height ratio 1.1. External genitalia- male, testes in scrotum, testicular volume-2.5ml, secondary sexual characters - tanners stage 1. Xray hand with wrist- bone age of 17 years. TFFT within normal limits. FSH, LH, testosterone levels were low. Growth hormone stimulation test after sex steroid priming showed low growth hormone levels. MRI pituitary showed empty sella. Patient diagnosed to have panhypopituitarism and started on inj. Growth hormone 0.24mg/kg/week subcutaneous and inj.testosterone 100mg/month IM.

CASE 3: A 17 year old female brought by her parents with complaints of decreased height appropriate for age and absent menstruation till date. O/E height - 143cm(<-3SD), weight - 45 kg, MPHY - 170cm, arm span to height ratio 1.1. External genitalia- female, secondary sexual characters - tanners stage 1. Xray hand with wrist - bone age of 16 years. Further evaluation showed TSH-21.8. MRI pituitary showed normal pituitary, pituitary stalk and normal pituitary lobe. IGF levels within normal limits. Estradiol was low and FSH, LH were high. Karyotyping showed 45 XO. Patient started on diagnosis of Turner's syndrome. Since X-ray showed no cleft palate, patient was started on growth hormone 0.33 mg/kg/week and advised not to take estrogen or progesterone. Patient currently on hormone replacement therapy and is doing well.

Conclusion: This research did not to establish correlation between hyperuricemia in women with MetS as it was not significant (p=0.38). However, a correlation between hyperuricemia and MetS was significant (p<0.05) as compared to those seen in other studies. Therefore, it can be concluded that increased SUA levels is with Increased WC. There was no significant difference among women and men with MetS. MetS is associated with hyperuricemia, so it can be concluded that increased SUA levels is with Increased WC. It was also observed that men with MetS have increased WC (Abdominal Obesity) than women with MetS.

A Study of Role of NGAL in Diagnosis and Staging the Severity of Diabetic Nephropathy in Type 2 Diabetes Mellitus Patients in SMS Medical College, Jaipur

Anamie Joshi, Aay Mathur, Rishabh Parashar, Rishabh Jain, Anita Neha, Suchismita Keswani
SMS Medical College, Jaipur

Present work was conducted to study of role of NGAL in diagnosis and staging the severity of diabetic nephropathy in type 2 diabetes mellitus patients to assess serum NGAL, urine albumin levels in diabetic patients with and without apparent nephropathy.

Material: Comparative study conducted in the General Medicine department of SMS Medical College. Inclusion criteria: Patients of type 2 Diabetes mellitus. Exclusion Criteria: Patients consuming high protein diet, pregnancy, severe muscular exercises, orthostatic albuminuria, congestive heart failure, urinary tract infections, liver diseases. Patients with type 1 diabetes mellitus.

Observation: The mean age of patient was 51.7 years. Here, HbA1c and NGAL were negatively correlated with each other with Pearson correlation -0.484 (p-value<0.05). In prediabetic patients mean NGAL was 407ng/ml and 0.34 ng/ml with HbA1c 5% and 11.5% respectively. However, correlation between hyperuricemia and MetS was not significant (p=0.09) as compared to those seen in other studies. Therefore, it can be concluded that increased SUA levels is with Increased WC. It was also observed that men with MetS have increased WC (Abdominal Obesity) than women with MetS.
Diseases of thyroid gland are among the most abundant endocrine disorders. Both hypothyroidism and hyperthyroidism have been linked with increased risk of cardiovascular disease and adverse effects of thyrotoxicosis in terms of osteoporosis risk is well established. Early diagnosis and treatment is the cornerstone of management of thyroid disorders. Anti-TPO antibody are useful markers for the detection of autoimmune thyroid disease while ultrasonography is the modality of choice for characterization of thyroid disease. Our study aims to review the relationship between clinical, laboratory and USG findings and characterization of thyroid disorder.

Material: An observational prospective study was conducted in a tertiary health care centre for a period of 18 months. It included 150 patients with symptoms of thyroid disorder and deranged FT3/FT4/TSH were included. Anti-TPO antibody was done using ELISA. Chi-square was used to compare data with p-value < 0.05 was considered to be significant.

Observation: Total 150 patients were analysed out of which 23 were males and 127 were females. Maximum patients were found in 31-45 year age group. Subclinical hypothyroidism was noted in 50% patients followed by overt hypothyroidism (21.3%), overt hyperthyroidism (21.3%) and clinical hyperthyroidism (6.5%). Most common symptom of subclinical hypothyroidism was fatigue. 62% patients were positive for Anti-TPO antibody. 76% patients were females and 24% were males. The most common USG finding was diffuse thyroid disease (31.3%), followed by normal USG (13%), thyroiditis (11.3%), solitary nodule (10%) and single nodule (6%). Among those patients with diffuse thyroid disease on USG, 85% patients had positive Anti-TPO antibody levels.

Conclusion: According to the present study, Anti-TPO antibody has been statistically associated with thyroid disease. Diffuse hypothyrogenicity on USG is statistically associated with positive Anti-TPO antibody and thus have a major role in the diagnosis and predicting prognosis of patients with thyroid disorders.

Fibrinogen Levels in Type 2 Diabetes Mellitus and its Correlation with Microvascular Complications

Ravi M, Kishorini, Harshvardhan L,
Mysores Medical College and Research Institute, Bengaluru

Diabetes mellitus comprises a group of common metabolic disorders that share the phenotype of hyperglycemia the potential role of hemostatic factors, particularly fibrinogen, in atherosclerosis and its complications has generated considerable attention. Fibrinogen, itself is determined by several modifiable and non-modifiable determinants like age, sex, smoking, body mass index (BMI), hypertension, alcoholism, glycemic control, lipid profile and urine albumin excretion rate. The role of fibrinogen in the pathogenesis and subsequent complications of diabetes is a focus of intense research.

Material: This is a cross section observational study. All the patients from the endocrinology OPD who fulfilled the inclusion criteria were included in the study. The inclusion criteria included type 2 diabetes patients, relatives of known type 2 diabetes patients, and patients who attended the diabetes clinic. The study was conducted for 5-10% of all cases of diabetes in Western Population. In this Cross sectional study patients presenting to a tertiary care centre with typical clinical and radiological features of Chronic Pancreatitis were investigated for the prevalence of Diabetes Mellitus. The study was conducted in Rajarajeswari Medical College and Hospital, Bangalore.

Conclusion: The prevalence of Diabetes Mellitus in patients of Chronic Pancreatitis in our study was 61.6%. The prevalence of exocrine insufficiency in patients of Chronic Pancreatitis in our study was 68.3%

A Study of Adrenal Insufficiency in Hypermobilically Stable Patients with Cirrhosis

Mukul Singhal, Shrikant Sharma, Nikhil Basil Tom, MK Agarwal, Ajay Mathur
SMS Medical College, Jaipur

Adrenal insufficiency (AI) is well entrenched in medical constraints like septic shock, critically ill and multi-morbid hypermobilics. Despite its prevalence, there is a dearth of evidence in the literature on the natural history, complications and optimal management of AI in these patients. We have studied the incidence and characteristics of AI in patients of cirrhosis with HLD in our hospital setting.

Material: A prospective, analytical study was conducted from March 2021 to December 2021 encompassing 100 hypermobilically stable patients with cirrhosis without infection, admitted to Hospital A. Patients were diagnosed with liver cirrhosis based on medical history and physical examination, laboratory tests and biopsy. Adrenal insufficiency was defined as inadequate cortisol levels, following cosyntropin stimulation test. A cutoff of less than 10 µg/dl was considered abnormal. The cortisol levels were measured by chemoluminiscence based method on fully automatic immunoassay analyser.

Observation: The study comprised 81 males and 19 females with the mean age being 45.4±12.92 years, with CLD due to chronic alcohol consumption (71%). Viral comorbidities viz. HBV, HCV, both viral and alcohol related miscellaneous causes were documented in 25, 14 and 12 patients respectively. AI was found in 38% patients with CLD being statistically significant with p = 0.001. Inclusively, 10.5% patients with Child-Pugh (CP) class A, 57.8% with CP class B and 31.57% with CP class C developed adrenal insufficiency. No statistical significance was found in age, sex; mean arterial pressure, heart rate, HLD, cirrhosis etiology, degree of alcohol consumption and manifestations of portal hypertension between patients with or without AI. Only serum albumin levels were lower (p=0.05) with INR raised (p=0.33) in patients with AI than their counterparts. However, multivariate analysis revealed no direct independent adrenal insufficiency predictor. ROC curve showed that the CTP score may be a good predictor for AI in liver cirrhosis patients as supplemented by significant negative correlations found between CTP score and peak cortisol levels (p=0.001).

Conclusion: Adrenal insufficiency found frequent even in hypermobilics stable patients with cirrhosis. Inclusion of the CTP spectra and worsening glucocorticoid levels should be periodically assessed in such patients for preventing parallel comorbidities.

A Study of Lipid Profile in Patients with Subclinical Hypothyroidism

Sindhu S, Vijay MB
Rajarajeswari medical college and hospital, Bangalore

By definition, subclinical hypothyroidism refers to biochemical evidence of thyroid hormone deficiency in a patient who have full mental and physical features of hypothyroidism. The subclinical hypothyroidism is diagnosed mostly by biochemical tests, in which most of the patients have a serum TSH(5-10) levels elevated above the normal reference range but serum free T3 and free T4 are normal. In subclinical hypothyroidism, most of the patients have no overt clinical manifestations. Hence, subclinical hypothyroidism is essentially a laboratory diagnosis.

Material: The study was undertaken in Rajarajeswari medical college and hospital, Bangalore. It is a case-control study, comparing 50 SCH patients, selected based on the TSH values (5-10 µIU/ml) and 50 euthyroid (EU) patients, matched for age and gender. Data was based on medical history, clinical examination, thyroid function, lipid profiles and Body mass index (BMI). Student’s t, chi-square tests was used for computation.

Observation: Dyslipidemia was significant in SCH patients compared to the control group. Further analysis of dyslipidemia showed that, total cholesterol, VLDL and LDL were all significantly elevated in SCH patients compared to controls with a statistical significance (p<0.001). Comparing the triglycerides, cases had higher values with statistical significance of (p=0.01). LDL was found to be reduced in cases with a statistical sig nificance of (p=0.04). Even though 50% of cases had BMI >25 (kg/m2), it did not show any statistical significance when comparing with the TSH values. Similarly, though cases had an elevated TC,LDL, VLDL and reduced HLD, when correlating with the BMI, had no such statistical significance in both the cases and controls except for LDL which showed statistical significance of (p=0.044) in SCH cases. All the lipid variables were compared with TSH values, divided into two groups 5-8µ IU/ml and >8µ IU/ml. Our result studies have shown that the LDL hypercholersterolemia (79.9%) was predominant followed by high Total Cholesterol (61.6%) in SCH cases with TSH >8(µIU/ml). Low HLD (<40 mg/dl) was seen in 57.9% of SCH cases with TSH >8(µIU/ml).

Discussion: Dyslipidemia is common in females, in the reproductive age group and elderly women. As SCH is asymptomatic, and more of a lab diagnosis, regular monitoring of thyroid function is the most important part of thyroid disease management. Dyslipidemia is common in SCH patients. Further, as the dyslipidemia is seen to be more with higher TSH values,SCH needs to be treated to prevent the complications of dyslipidemia. Is considered as atherogenic condition as it increases overall cardiovascular risk. Hence it’s important to assess lipid profile and CVS risk in these patients.

The present study is undertaken to know the levels of fibrinogen in type 2 diabetes mellitus and its relation with renal dysfunction and markers for detection of diabetic microvascular complications. Our aims to identify the role of fibrinogen as a marker of microvascular disorders.
A Study of the Association Between Metabolic Syndrome and Vitamin D Deficiency

Sura B Utmani, Vijayashree Thayagur
MS Ramiah Medical College, Bangalore

Metabolic syndrome is a global pandemic. It contributes to early cardiovascular morbidity and mortality. The etiology of the Syndrome is not completely understood yet. Insulin resistance remains the most accepted hypothesis.

Another such hypothesis is that of vitamin D deficiency. Exploring a possible association between these two highly prevalent conditions could help in better understanding of the pathophysiology of metabolic syndrome.

The clinical impact of this association could help in better control of the health of an individual if lifestyle and pharmaceutical interventions for Metabolic Syndrome fail.

Material: In this cross sectional study, 176 consecutive patients were enrolled.

The patients were divided into two groups- cases and controls on the basis of the NCEP ATP III criteria.

History, clinical examination and laboratory tests like FBS, fasting lipid profile and vitamin D were done for both the groups and results were compared.

Observation: The mean serum vitamin D levels among those with Metabolic Syndrome was lower, 16.50±9.06 ng/ml compared to those without the syndrome, 20.75±10.29 ng/ml. This difference was found to be statistically significant (p = 0.004) signifying a strong association. FBS and waist circumference showed significant negative correlation while exposure to sunlight and HDL had a significant positive correlation with vitamin D deficiency.

Conclusion: In this study, mean vitamin D levels were lower in those with metabolic syndrome than those without metabolic syndrome and this was found to be statistically significant. Thus in patients of Metabolic Syndrome with poorly controlled metabolic parameters despite adequate lifestyle and pharmacological interventions, correction of the vitamin D, if found to be deficient, can be considered for better control of these parameters.

To Study the Association between Sick Euthyroid State and the Incidence of ACS

Ritesh Kumar, Vishal Mehta, Rathod Prabhakar, Divya, Praveen Kumar Solanki, Rakesh Kumar Mallick, Rajendra Institute of Medical Sciences, Ranchi

The low T3 syndrome, the most common type of Sick Euthyroid Syndrome, once believed to be a beneficial adaptive mechanism under conditions of stress, has emerged as a strong prognostic determinant in chronic systolic heart failure and Thyroid Subsyndrome is frequently observed in Chronic Heart Failure, Acute Myocardial Infarction. Acute myocardial infarction (AMI) may be associated with endocrine alterations including those of the SES which reflect the acute hormone response to stress and trauma. It is known from several studies that several cytokines can be found elevated in patients with cardiac ischemia or AMI. From in vitro studies it is of particular interest that ischemic myocytes produce cytokines such as interleukin-6 (IL-6) and its synthesis is accelerated by receptor.

 interleukin-6 seemed to be an important cytokine produced by the injured myocytes in patients with AMI, and strong negative correlation between serum IL-6 concentration and left ventricular ejection fraction (LVEF) has been demonstrated. Similar observations have been made by others showing that interleukin-6 is involved in cardiac injury.

Material: Study design : hospital based analytical cross-sectional study.

Material: serum ECQ, Thyroid profile (FT3, FT4, TSH, rT3) and echocardiography. The study group included 100 per 1000 patients who were admitted in ward/ICU with the diagnosis of myocardial infarction.

Inclusion criteria: All patient with age 18yrs or above.

History of chest pain with ECG changes and cardiac biomarkers of myocardial infarction.

Exclusion criteria: Patient below 18 yrs.

Known case of hypothyroidism/hyperthyroidism

Known case of malignancy

Patients who have reached iodinated contrast in past one week.

Observation: Out of 100 patients included with myocardial ischemia or primary hypertensive heart failure; of these 32 were Klinefelter syndrome (XXY), 7 chronic orchitis and 3 empty scrotal syndrome including one case of tubular failure. These patients also developed other systemic illnesses in addition to hypogonadism. Group B (n=8) hypogonadotropic hypogonadism or secondary testicular failure were suspected and Kallman syndrome and the rest were nonidiopathic. After testosterone replacement all patients were virilized and there was marked improvement in libido and androgenization.

Conclusion: The study brings out that primary testicular failure is more common than secondary testicular failure. Both pattern of hypogonadism should receive androgen replacement therapy. In case of idiopathic failure; of these 2 were Kallman syndrome and the rest were nonidiopathic. After testosterone replacement all patients were virilized and there was marked improvement in libido and androgenization.

Role of Non-Alcoholic Fatty Liver Disease in Cardiovascular Morbidity in Polycystic Ovarian Syndrome

Jasmine Nath, Shima Sharma
Dr. D.P. Patil Medical College and Research Institute, Kolhapur

Polycystic Ovary Syndrome remains as the most common endocrine disorder among females and are at increased risk of developing early onset atherosclerosis.15Studies have also demonstrated increased Cardiomyo-10/11, which is a predictor of coronary and cerebrovascular events among relatively younger women. Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease which is associated with significant morbidity and mortality and occur in higher prevalence in Polycystic ovary syndrome (PCOS). Studies have also demonstrated increased atherosclerosis.11Studies have also demonstrated increased cardiovascular morbidity in PCOS patients with or without Non Alcoholic Fatty Liver Disease.

Material: 22 Polycystic Ovary Syndrome patients already diagnosed by Rotterdam’s criteria were included in this study. Abdominal Ultrasonography screening was used to identify patients with Non-Alcoholic Liver Disease and patients without Non Alcoholic Fatty Liver Disease. Demographic and anthropometric data was noted in both groups. Cardiovascular morbidity was assessed for all the patients using fasting blood sugar, lipid profile, SGOT, SGPT, 12 lead ECG, 2D-ECHO and CMT. Data was entered in Microsoft Excel. Master chart was prepared and analysis was done based on compiled information.

Observation: Total 22 patients were included in the study. Non-alcoholic Fatty Liver Disease were found in 10 patients with a mean age of 36.2±8.58 (45%) and patients without Non-alcoholic Fatty Liver Disease were found in 12 patients with a mean age of 24.5±5.7 (34.5%).

Fisher’s Exact Test revealed significant association between PCOS CV morbidity and Non-Alcoholic Fatty Liver Disease status of patients of Polycystic ovarian syndrome. “p” value was found to be 0.01 that showed presence of Non-alcoholic Fatty Liver Disease increases risk of Cardiovascular morbidity.

Conclusion: Correlation of e/a ratio and LDL/HDL ratio was significant between Non-alcoholic Fatty Liver Disease and Non-alcoholic Fatty Liver Disease. As in e/a ratio was found to have increased LDL/HDL ratio in group with Non-Alcoholic Fatty Liver Disease with R2=0.59.

There was no significant association between e/a ratio and TG/HDL ratio between NAFLD and non NAFLD. There was no significant association between Body mass index and carotid intima media thickness between NAFLD and non NAFLD.

Conclusion: There is a significant association of cardiovascular morbidity in Polycystic ovary syndrome with Non-alcoholic Fatty Liver Disease.

Assessment of Pulmonary Function Using Spirometry in Patients with Hypothyroidism

P Talwara, R Khadak, A Parab, N Patil
D Y Patil Medical College, Kolhapur

Hypothyroidism is a common disease with a prevalence rate of 11% in India. It effects all organs systems in the body. Patients with hypothyroidism frequently have symptoms of fatigue, exercise intolerance. These symptoms could arise from a reduced pulmonary reserve, cardiac reserve or reduced muscle strength or increased muscle fatigue. There are very few studies done to evaluate the effects of thyroid disorder on pulmonary function. So, this study is focused on estimating effects of hypothyroidism on pulmonary function of affected individual
Diabetes

Association between Long Term Exposure to Air Pollution, Impaired Fasting Glucose, Impaired Glucose Tolerance and Prevalence of Diabetes

Monika Gupta, RP Agrawal, BL Meena, Ramesh, Jai Kumar Meel, Rtvik Agrawal
Sardar Patel Medical College, Bikaner

Air pollution exposure has been shown to adversely impair glucose metabolism. Several number of biological pathways, and is also associated with glucose metabolism. There are few studies that evaluated the associations between air pollution exposure with fasting glucose levels. The objective of this study was to investigate the impact of air pollution on the glucose metabolism in Bikaner.

Material: We performed cross-sectional analysis in 3457 participants between 30 to 70 years of age group from 5 different urban and rural areas of Bikaner district. Air pollution concentration of multiple air pollutants (PM10, PM2.5,Sulphur dioxide, Nitrogen dioxide) were estimated by ambient air quality standard method by respiratory dust sampler.

Diabetes was defined based on self reported diagnosis, medication prescription, oral glucose tolerance test and HbA1C. We adjusted for potential confounders including socio-economic status, smoking habits, alcohol consumption, physical activity and BMI (BMI) by using logistic regression method.

Observation: After adjustment for potential confounders, air pollutants PM10, NO2 except PM2.5 were associated with diabetes prevalence. The prevalence of diabetes was 8.93% and the mean HbA1C was 8.67±1.6 where as the concentration of PM10 was 136.12 mcg/m3, NO2 was 31.55 ppm and PM2.5 was 23.36 mcg/m3. The prevalence of IFG, IGT and diabetes increases with increased concentration of air pollutants. By applying Pearson correlation for air pollutants the ‘r’ value of PM10 was 0.163, p value < 0.001, for PM2.5 the ‘r’ value was 0.001 and p value 0.965, for NO2 the ‘r’ value was 0.149 and p value 0.050 applying step wise logistic regression analysis, air pollutants PM10 (Odd Ratio 0.002, 95 CI 0.002,0.003) and by adding of duration to exposure to air pollutants (Odd ratio 0.003,95% CI 0.001,0.005) by adding PM2.5 air pollutant (odd ratio 0.028,95% CI 0.042,0.015) and by adding NO2 (odd ratio 0.140,95% CI 0.014,0.0175).

Conclusion: Long term air pollution exposure was associated with diabetes mellitus and this was more reactive and aggregable and their mean volume (MPV) and HbA1c and its role in predicting glycaemic control with conflicting results. Thus the present study was conducted to assess the relationship between HbA1c levels and platelet activity (MPV) in type 2 diabetes patients.

Material: This was a hospital based observational comparative study on 100 cases of diabetes mellitus divided in 2 groups i.e Group A (HbA1c <7) and Group B (HbA1c >7) and 50 healthy controls in Group C in hospital wards and OPD of SMS Medical College, Jaipur. Inclusion criteria: Age more than 30 years, newly diagnosed or old cases of diabetes mellitus using the definition given by American Diabetes Association.

Exclusion Criteria: Abnormal platelet count (<100 & >500K/µL) as per laboratory report, History of drugs affecting platelet function, Male patients with Hb<12.5mg/dl and females with Hb<11.5 mg/dl and Pregnant females.

Observation: It was observed that mean MPV(II) was maximum in tissue injury and drugs affecting platelet function, Male patients with Hb>12.5mg/dl and females with Hb>11.5 mg/dl and Pregnant females.

Conclusion: We found that platelet volume in diabetic mellitus type 2 patients was significantly higher than non-diabetic group. We also found that the mean platelet volume in female subgroup (HbA1c >7) was maximum in Group B (8.82±1.41), followed by Group A (6.66±044) and Group C (6.57±0.45) and a significant (p-value<0.05) relation was found statistically. We also observed that mean HbA1c (%) was maximum in Group B (10.77±77) and Group C (9.09±.85) and a significant (p-value<0.05) relation was found statistically in these 3 groups. In group A, B and baseline and follow-up MV(II) levels were more (13.35±1.26) than at follow up after glycemic control of 3mths (12.13±1.20) and this was found to be statistically significant. It was also observed that increase in HbA1c concentration was directly proportion to increased MPV.

Determining the Best Screening Strategy for Patients with Mycobacterium Tuberculosis Infection and Glucose Intolerance and Associated Dyslipidemia in a Tertiary Care Hospital in North India

Vire Vireshwar Goyal, Hansaj Kumar Mathur, Tanuj Mahmood
MN Medical College, Jalalpur, Aligarh, Uttar Pradesh

To determine prevalence of glucose intolerance and dyslipidemia in patients with mycobacterium tuberculosis infection.

Material: A prospective study done on 164 patients infected with mycobacterium tuberculosis. Study was conducted on patients with tuberculosis (TB) were selected from Medicine and Pulmonary Medicine departments in MLN Medical College Prayagraj. The blood samples of the patients were collected after glucosetolerance using A1C, FPG and 2h-PK at baseline, 3 months, and 6 months, and then further, divided into two categories on the basis of glucose tolerance abnormalities glucose tolerance (AGT) and normal glucose tolerance (NGT).

Observation: A total of 164 patients with TB were taken in the study. AGT group had 76 patients, which include 47 patients with impaired glucose tolerance (IGT), and 29 patients who were newly diagnosed to have 26 diabetes mellitus, and 88 patients in NGT group. The mean age of the patients in AGT group was 44.65 years. Any of the 3 criteria (FFPG and/or, PFG and/or, A1C) revealing dysglycemia the true positive was 77.63%, 100% and 98.68% at baseline, 3 months and 6 months interval. Using FFPG alone as the criteria, the sensitivity was 43.42%, 81.58% and 68.42%, whereas as A1C alone as the criteria, the sensitivity was 77.63%, 100% and 98.68% baseline, 3 months and 6 months intervals respectively whereas specificity was 100%. Among AGT and NGT, dyslipidemia was found statistically significant among AGT group (p<0.01). A Mean serum triglycerides (165.11, p<0.001) and LDL cholesterol (99.65, p<0.001) in AGT group.

Conclusion: There is increased prevalence of prediabetes and newly diagnosed DM in patients with TB and they are more to develop dyslipidemia.
duration of diabetes, and associated diabetes related microvascular complications (MVC). Out of 53 patients each, Group A patients were treated on OAD’s (oral antidiabetic drug) with insulin and Group B included patients on OAD’s without insulin. The patients were followed for 8 days and subjected to multiple glycemic episodes (level 1 > 180 mg/dl, level 2 > 250 mg/dl) and hypoglycemic episodes (level 1 ≤ 54-70 mg/dl, level 2 ≤ 54 mg/dl) and hypoglycemic profiles were determined between the groups.

Observation: Group A patients had significantly higher (29.9%) total number of hyperglycemic episodes (Level 1 > Level 2) as compared with group B (9.08%) (p < 0.0001). Amongst group A, propensity patients with total number of hyperglycemic episodes was significantly higher in insulin treated patients (p < 0.0001). Significant decrease in hyperglycemic profiles was observed by metformin + 1 OAD (9.24%) & insulin metformin (26.82%) (p < 0.0001). Amongst group B, total number of hyperglycemic episodes were found to be significantly higher with metformin only subgroup (10.19%) followed by metformin + 1 OAD (9.72%) & metformin + >1 OAD (8.1%) (p < 0.0001). Amongst the add on OAD’s, sulfonylurea contributed to 61.07% hyperglycemic episodes in group A & 11.63% group B which was statistically more than DPP-4 inhibitors with 14.91% & 2.84% respectively (p < 0.0001). Total number of hypoglycemic episodes seen in group A patients (8.66%) were significantly less as compared with group B (13.27%) (p < 0.0001). Sulfonylurea contributed to 7.5% hyperglycemic episodes in group A & 13.2% in group B which was statistically more than DPP-4 inhibitors with 6.49% & 12.35% respectively when added to metformin (p < 0.0001).

Conclusion: Amongst the OAD’s used in type 2 diabetes mellitus patients in this study, total number of hyperglycemic and hypoglycemic episodes were found to be more in patients taking sulfonylurea as compared with DPP-4 inhibitors when used in combination with metformin with or without insulin.

To Study the Relation Between Ratio of Waist-to-Calf Circumference and Microalbuminuria with Carotid-Intima Medial Thickness (CIMT) in Patients of Type 2 Diabetes Mellitus

Rakshitha NS, Kavya ST
Bangalore Medical College and Research Institute, Bangalore

Carotid atherosclerosis is increased 3 fold in people with DM. Several theories have been proposed that increased Urinary Albumin Excretion Rate (UAER) is associated with impairment of endothelial function leading to atherosclerosis. Calf circumference is considered a surrogate marker of lean mass. Visceral fat gene expression is considered more proatherothenic than subcutaneous adipose tissue. CIMT is new non-invasive test and carotid artery intima media thickness (CIMT) and carotid artery wall thickness (WCT) are the best anthropometric indicators of carotid atherosclerosis.

Material: This cross sectional study was conducted in the internal medical department of Bangalore Medical College and research institute. Relevant history taken, clinical examination and laboratory investigations was done on 140 patients of type 2 diabetes mellitus. The correlation of waist-calf ratio and urine albumin creatinine ratio(UACR) with carotid intima media thickness were done in these individuals. Chi square/Fischer exact test has been used to find the significance of study parameters on categorical scale between 2 or more groups. Pearson correlation between study variables was performed to find the degree if relationship.

Observation: Among 140 patients in our study 86 were females and 54 were males with mean age 54.05± 11.29 years. Mean ± SD of HbA1c was 9.04± 2.67. Mean ± SD of WCR was 3.09± 0.32. It was observed that 48, 65 and 27 patients were having normalalbuminuria, microalbuminuria and macroalbuminuria respectively. Mean avg CIMT was 0.78± 0.07. Pearson’s correlation coefficient used in our study showed strong positive correlation between WCR and CIMT (0.841) and also between UACR and CIMT. There was a linear correlation between WCR and UACR and therefore the correlation was statistically significant P value <0.001.

Conclusion: Cardiovascular complications are an important cause of mortality and morbidity in type 2 DM. CIMT and WCR were done in 140 patients of type 2 diabetes mellitus using carotid ultrasonography is cumbersome and not cost effective. Hence simple anthropometric measurements of body mass index, waist circumference, calf circumference and blood pressure should be used. WCR and UACR are well established markers of diabetes mellitus and it was observed that WCR and UACR were positively correlated with CIMT. This study shows that CIMT and WCR could be used as a non-invasive markers in diabetes mellitus.
Cardiac Autonomic Neuropathy (CAN) in Newly Diagnosed Type 2 Diabetes Mellitus Patients

Vishnu Dev AM, Md Sabah Siddiqui, Eka Khandelwal

AIIMS, Raipur

Autonomic dysfunction associated with Type 2 Diabetes Mellitus is a well known entity, of which cardiac autonomic neuropathy especially preserves a special mention due to its propensity to cause major cardiac events in a seemingly asymptomatic individual. The incidence of Cardiac Autonomic Neuropathy in the Indian population is unknown. This study aims to find the prevalence of cardiac autonomic neuropathy in the Central Indian population, presenting to our center who are diagnosed with Type 2 Diabetes Mellitus within one year. The present study was done in the Department of Cardiology, in AIIMS, Raipur.

Material: 35 patients, of the age group (18-45 years), who were diagnosed to have Type 2 Diabetes Mellitus within one year of diagnosis, taken, after excluding any other chronic illness, like CKD, CLD, CVA, etc. and after getting consent, 35 healthy age and sex-matched controls were included in the study. Cardiac Autonomic Testing was done for all of them, using the measurement of Heart Rate Variability (HRV), Deep Breathing Test (DBT), Cold Pressor Test (CPT), and Lying to Standing Test (LST). The experimental data was analyzed using Labchart Software for autonomic dysfunction.

Conclusion: No adverse effect of medication in patients with Type 2 DM is significantly associated with cost of medication, non-availability of medication, long-term use of drugs. Non-adherence was significantly associated with non-adherence to medication.

Diabetes patients is less studied, with most of the current experimental data was analyzed using Labchart Software for autonomic dysfunction. The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) among nondiabetics which was statistically significant (p=0.001). Even in nondiabetics, the Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05). The Pearson correlation coefficient of FEV1 and grip strength was found to be positive (r = 0.631) which was statistically significant (p<0.05).
Method: Cross-sectional, observational study in 75 subjects (25 T2DM, 25 Prediabetes, 25 Controls). Detailed history including physical examination was performed. Patients were subjected to these investigations; FBS, HBA1C, Serum Insulin levels, Lipid profile, ABPM, Abdomen to assess Visceral Fat Volume and Abdominal Wall Fat Index. Data were collected and analysed.

Observation: Mean age 55.8±12.2 years, T2DM: 47.7±12.2 years, Prediabetes: 55.7±11.9 years, Controls: 45.7±10.2 years. Mean systolic BP in T2DM subjects was 138.56±14.46 mm Hg, in Prediabetes was 136.12±14.01 and Controls was 131.97±12.37 mm Hg. The patients with diabetes were on varied duration of diabetes (2-12 years) and their HbA1c levels ranged from 5.9% to 10.2%. The prevalence of LVDD was more in T2DM settings (p value<0.001), valsalva maneuver (p value<0.001), standing (2.17%). The patients with CAN had a statistically significant heart rate response to deep breathing 25%. The least common response was blood pressure response to standing (2.17%). The patients with CAN had a statistically significant reduction of heart rate response to deep breathing (P value<0.001), valsalva maneuver (p value<0.01), standing after lying (p value 0.01), fall in systolic blood pressure after standing (p value<0.01) and less increase in diastolic blood pressure after sustained handgrip (p value<0.01) than the patient without CAN. CAN was more prevalent in the older age group (p value<0.01) and in patients with higher HbA1c level. Brachial index (ABi) of diabetics was 0.89±0.15 and in the group with >7% indicated good glycaemic control, mean magnesium level was 1.46±0.50 mg/dl and in the group with <7% indicated poor glycaemic control, mean magnesium level was 1.80±0.53 mg/dl. On doing t-test for independent means, the p-value was found to be significant at <0.0001. This shows that better glycaemic control (HbA1c >7%) have lesser serum magnesium levels as compared to the patients with good glycaemic control (HbA1c <7%).

Conclusion: The present study investigated the serum magnesium levels in patients with Type 2 Diabetes Mellitus and its association with glycated haemoglobin (HbA1c) levels. It was observed that the magnesium level was lower in patients with higher glycated hemoglobin levels. Therefore hypomagnesaemia was more in patients with poor glycemic control. Based on this study, it can be said that magnesium levels can be taken as an indicator of the glycaemic status in the diabetics. Oral magnesium supplementation can be advised in such patients.

Study of Pulmonary Function Tests in Diabetic Nephropathy

Ashrith Chintalapati, Suresh Babu, Chetan CS

JSSAHER, Mysuru

Type 2 diabetes mellitus which is an universal public health problem is associated with the development of micro- and macrovascular complications. Complications of diabetes on eyes, kidneys and nerves are well documented but study on lung involvement in diabetes and its correlation with nephropathy are sparse. This study was taken to assess pulmonary functions in patients with diabetic nephropathy. The association of pulmonary function with duration of diabetes and assess the prevalence pulmonary hypertension in patients with nephropathy.

Material: This was a cross-sectional study which included 50 diabetic subjects, 50 diabetics with overt nephropathy, and 50 healthy subjects without diabetes as control group in terms of age, sex, and BMI. Pulmonary arterial pressures were assessed by 2D ECHO and results were interpreted using SPSS 21.0 version for windows.

Observation: Mean FEV 1% was 98.12 (+/-10.06), 75.88 (+/-14.18) and 57.84(+/-13.49), Mean FVC% was 86.67 (+/- 8.77), 69.82(+/−13.88) and 53.02(+/-13.41), The mean PEF% was 88.62 (+/-14.47), 59.40 (+/-16.59) and 48.96 (+/-20.94). Statistically significant difference was observed between healthy subjects and diabetics with nephropathy group and diabetics nephropathy group and diabetics nephropathy group respectively and the difference observed was statistically significant (p value<0.001). Reverse dipping pattern was observed in diabetic patients which was more pronounced in Diabetic nephropathy group. Mean FEV1% was 71.03 (+/-13.92), Mean FVC% was 65.66 (+/-11.06), 60.79 (+/-18.00) and 56.38 (+/-16.55) was observed among the participants having diabetes less than 10 years and 10 years respectively. The difference in mean FEV1%, FVC % with duration of DM was not statistically significant. PAH was present in 5 patients (6%) in diabetes mellitus group and in 20 (40%) in diabetic nephropathy group and the difference observed was statistically significant p <0.001. FEV1, FVC and PEF were significantly reduced in PAH group when compared to the T2DM group with p value<0.05.

Conclusion: This study showed that Pulmonary function tests are impaired in diabetics, showing a restrictive pattern and impairment was pronounced in diabetics with nephropathy. The higher pulmonary function tests in diabetic nephropathy group indicates the development of diabetes. Pulmonary hypertension was more common in diabetic nephropathy group.

Sensitivity and Specificity of Pulse Oximetry and Ankle Brachial Index for Screening Asymptomatic Peripheral Vascular Diseases in Type 2 Diabetes Mellitus

Mansi Manthappa

JSS Medical College, JSSAHER, Mysuru

Diabetes mellitus increases the risk of development of peripheral arterial disease. While other conventional causes and risk factors promoting peripheral arterial disease involve the muscular processus, peripheral arterial disease in diabetes mellitus tends to involve the distal vascular system more commonly – namely, the tibial and plantar arteries.

Objectives: 1.To compare pulse oximetry and Ankle-Brachial Index (ABI) with duplex ultrasonography as reference standard to determine the diagnostic accuracy for screening asymptomatic PVD in Type 2 Diabetes.

2.To assess the efficacy of pulse oximetry as a screening tool to detect significant LEAD in patients with diabetes mellitus and to compare it with the ABI for the same purpose.

3. To know if the combination of pulse oximetry and ABI would yield better results than either one by itself.

Material: The present study is an evaluation of diagnostic test study conducted in 150 diabetic patients attending tertiary care centre. Pulse oximetry was performed. Ankle Brachial index was estimated. Duplex ultrasound examination was performed.

Observation: The association is statistically significant (P<0.001). The two groups are comparable with respect to the biochemical parameters. There is statistically no significant association. Complications of Diabetes Mellitus with peripheral vascular disease among study participants (P>0.05) Majority of the patients with peripheral vascular disease had CAD and CVA.

Conclusion: Pulse oximetry is as good as Ankle Brachial Index in the initial screening of patients with asymptomatic Peripheral Vascular Disease. It will be an ideal and simple-to-use potential screening tool that can be used at the grassroot level by medical and paramedical personnel alike.

Abnormal Dipping Pattern of Blood Pressure in Diabetic Patients Study

Hamsa Nandini

JSS Medical College, JSSAHER, Mysuru

Autonomic neuropathy is a significant complication of long term Type 2 DM which contributes to the diurnal variation of BP. Non dipping pattern is when the nocturnal dipping is less than normal. Non dippers are associated with increased target organ damage and increased risk of cardiovascular mortality. The pattern of blood pressure variation and dipping is found using Ambulatory blood pressure monitor (ABPM). This study aims to study the variation in dipping pattern as recorded by ABPM in patients with Type 2 Diabetes.

Material: 50 patients with a history of diabetes for at least 5 years were selected and subjected for ABPM. The reference standard to determine the diagnostic accuracy for screening asymptomatic PVD in Type 2 Diabetes.

Observation: In our study we found that 22 (44%) patients in the diabetic group and 13 (26%) among patients in the normal group were normal dippers. 17(34%) patients in the diabetic group and 12 (24%) patients in the non diabetic group were reverse dippers while 17 (34%) patients in the normal group were reverse dippers. The difference between the distribution of the dipping patterns among the two groups was statistically significant. (p<0.001). Patients having diabetes for more than 10 years had a prevalence of non dippers (77.8%) as compared to patients with diabetes of 5 to 10 years (43.8%). This difference showed a statistical significance(p=<0.02). The incidence of reverse dipping was more in patients with a HbA1c of more than 9% (n=10, 34.5%) when compared to patients who had a HbA1c of 7-9% (n=1, 4.8%).

% were significantly reduced in PAH group when compared to the T2DM group with p value<0.05.
Correlation of SPO2 Measurement by Pulse Oximetry with Arterial Blood Gas Analysis in Patients with Uncontrolled Type 2 Diabetes On Oxygen Therapy

Akshay Vankayala, Athok HG
JSS Medical College, Mysuru

Pulse oximetry is widely used as a noninvasive tool for continuous monitoring of arterial oxygen saturation (SaO2), but pulse oximeter oxygen saturation (SpO2) may overestimate arterial blood gases-determined SaO2 in acute sickle chest syndrome and severe sepsis.

Objectives: To estimate difference in SpO2 levels between pulse oximetry and arterial blood gas analysis among patients with elevated HbA1c.

Material: Present study is an evaluation of diagnostic study conducted among 150 diabetic patients for a period of 18 months. Data collected was entered in Microsoft excel and analysed using SPSS version 24.0.

Observation: There is statistically significant association between two procedures in diagnosing hypoxia and arterial blood gas analysis among patients with elevated HbA1c. A majority of patients with diabetes mellitus type 2 showed a fall in SaO2 to <90% and were treated with Inhaled Oxygen via Mask. There was statistically significant association between the procedure in the individuals having saturation 80 to 90 (p<0.001).

Conclusion: Elevated HbA1c is not associated with false overestimation of SpO2 when measured with pulse oximetry. Pulse oximetry has high accuracy in estimating arterial oxygen saturation with SpO2 <90 however, the exact estimation of SaO2 and SpO2 is not possible.

To Study the Incidence of Diabetic Retinopathy in Different Stages of Diabetic Nephropathy in Type 2 Diabetes Mellitus

Midhila Gopinath, Pavan Raj N, Mohammed Hafeez, Rashajee AN
BR Ambedkar Medical College & Hospital, Bangalore

India being a developing country and undergoing socioeconomic growth on fast pace is at a higher risk of catering to the population owing to the unhealthy lifestyle with a significant fraction belonging to the urban population. According to IDF, estimated population with diabetes mellitus in India as in 2019 is 77.08 million which accounts for around 10.4% of the population. Keeping in mind the population of our country, this population proportion can give an idea about the disease burden and is rightly regarded as the ‘Diabetic Capital’ of the world. Majority of morbidity and mortality associated with diabetes can be attributed to its complications. These can be categorised into vascular as well as non-vascular complications. Vascular complications are further divided into microvascular and macrovascular complications. Microalbuminuria is the earliest clinically detectable stage of diabetic kidney disease at which appropriate interventions can retard, or reverse, the progress of the disease. Diabetic nephropathy (Kimmelstiel-Wilson syndrome) is the leading cause of end-stage renal disease (ESRD) worldwide. It is a complication of type 2 diabetes patients reach ESRD during their lifetime. Here, this study explores the incidence of different stages of diabetic retinopathy in relation to different stages of nephropathy among type 2 diabetes mellitus patients.

Material: A prospective study done with 50 patients with long standing history of Type 2 Diabetes Mellitus (more than 5 years) attending Medicine OPD at our hospital with informed consent fitting the inclusion and exclusion criteria were taken up for the study. Albuminuria estimation as well as fundoscopy was done with informed consent. All patients underwent a thorough clinical examination and a proper history was taken into account about their BMI, their details of medications like oral anti-diabetics as well as presence of other co morbid conditions.

Observation: With the above data in hand, the incidence of diabetic retinopathy in different stages of diabetic nephropathy, CKD stages were calculated and analysed. 2 (6.67%) of Grade II Nephropathy, 3 (6.0%) of Grade IIIa, 11 (55%) of Grade IIIb, 2 (12.5%) of Grade IV and none among Grade V had a normal fundus. 1(3.33%) of Grade II, 2 (20%) of Grade IIIa, 3 (25%) of Grade IIIb, 4 (25%) of Grade IV and nil had Mild NP (1) (20%) of Grade IIIa, 3 (15%) of Grade IIIb, 4 (25%) of Grade IV and 6 (12%) of Grade V had Moderate NP (1%)(Grade IIIa), 3 (18%) of Grade IV and 2 (33%) of Grade V had Severe NP (3%) of Grade IV and 3 (60%) of Grade V had Statistical analysis by Fisher Exact testing showed that the above data is significant with a P value of 0.016.

Conclusion: This study showed severity of diabetic retinopathy increased with the progression of stages in relation to different stages of diabetic nephropathy. Data shows that severe forms of diabetic retinopathy is more linked to long standing duration of diabetes and kidney damage among those with good glycaemic control. Hence it is advisable to include fundoscopy & albuminuria as the screening tool in the evaluation of long-standing diabetes, so that we can predict the development of diabetic retinopathy and treat them in early stages.

Comparison of Prevalence of Complications in Obese vs Non Obese Type 2 Diabetes Mellitus in B.R. Ambedkar Medical College and Hospital, Bangalore

Vikram Loona
BR Ambedkar Medical College and Hospital, Bangalore

To study the complications of diabetes (microvascular and macrovascular) in obese and non-obese individuals.

Material: Single centre, prospective, observational study conducted in a collaborative study in inclusion : 18-65 years, Type 2 DM (WHO criteria).

Observation: Most common complication was retinopathy (45.7% and 63.2%) and nephropathy (14%) in obese individuals, with higher percentage in obese individuals, and the same applied for microvascular complications. Pulmonary edema was present among those retinopathy than among those without retinopathy.

Conclusion: MPV can be used as a simple and cost-effective tool to monitor the progress of diabetes and control of DM and especially its microvascular complications thereby help reduce the morbidity and mortality.

Association of Fasting Proinsulin Levels with Glycemic Profile in Indian Type 2 Diabetes Patients

Anushka Aggarwal, Debasish Chaudhury, Ritu Singh
Lady Hardinge Medical College, New Delhi

Type 2 diabetes mellitus is a major cause of cardiovascular disease and mortality, with mortality rate 27% higher in the diabetes cohort. Hyperproinsulinaemia is a sign of beta cell dysfunction that is augmented by chronic hyperglycemia. Hyperproinsulinaemia is the result of secretion of immature proinsulin-rich granules from beta cells in response to demand for insulin i.e. an insulin resistant state. According to previous studies intake proinsulin is a stronger predictor for type 2 diabetes than specific insulin. We plan to confirm this finding in the Indian demographic.

Material: An observational cross-sectional study was carried out in LHEMC with 150 subjects having type 2 diabetes aged between 35-80 years. The subjects taking insulin or any diabetogenic drugs; with history of chronic respiratory, cardiac or metabolic illness other than diabetes were excluded from this study. Fasting blood glucose, HbA1C and lipid profile were analyzed. Correlation between said parameters was established using spearman correlation and Wilcoxin-Mann-Whitney U test was used to make comparisons.

Observation: Assessment of glycemic profile of the study population revealed presence of 51 subjects with HbA1C >7.5%, 35 with 7.5-9.0 % and 34 with HbA1C >9.0%. Association of proinsulin with FBS and HbA1C was present and strongly significant (rho=0.26 & p value= 0.001, rho=0.238 & p value= 0.005 respectively). The mean values of proinsulin in obese patients were 8.81±1.05fl and 17.4ug/ml respectively. Association of proinsulin with triglyceride levels was found to be positive and significant (rho=0.22, p value=0.001). Association of proinsulin in subjects with hypertiglyceridemia was 17.9ug/ml as compared to 12.7ug/ml in normal subjects.

Conclusion: The results of the study demonstrated significant positive association between fasting proinsulin levels and glycemic indicators (p value FBS<0.001, HbA1C=0.005, triglyceride<0.005). Proinsulin however has multiple associations with the diabetes pathophysiology which need to be studied further. Other studies have also demonstrated proinsulin to be an independent cardiovascular risk factor by stimulating plasminogen activator inhibitor-1 secretion and blocking fibrinolysis. Hence, proinsulin needs to be evaluated for use as a early marker for diabetes progression.

Assessment of the Diagnostic Utility of Serum Omentin 1 and IL-6 in Early Stages of Diabetic Nephropathy

Sujata Devi, Suchanda Sahu, Kishore Kumar Behera, Debananda Sahos, Nibedita Priyadarshini
AI All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

Diabetes, nephropathy (DN) is the most common cause of chronic kidney disease. Timely detection of microalbuminuria and appropriate intervention can reverse or arrest the progress of nephropathy. The pathogenesis of diabetic nephropathy has revealed that during the early onset of kidney involvement in diabetics, inflammation and fibrosis progress from tubular to glomerular damage. This study was designed to elucidate the association of chemokines, Omentin 1, and interleukin 6 (IL-6) with microalbuminuria.

Material: Settings and Design: This cross sectional observational study was conducted as a collaborative study in the Departments of General Medicine and Biochemistry, Lady Hardinge Institute of Medical Sciences, Bhalsiwara, New Delhi, India, during 2019-2020.

Methods and Material: Our study group comprised 116 diabetes mellitus patients. They were grouped into different stages of diabetic nephropathy and control group. Group 1 (controls) had UACR < 30 µg/mg, eGFR>90ml/ min/1.73m and Group 2 (cases) had UACR ≥ 30 µg/mg and < 300 µg/mg and eGFR>90 ml/min/1.73m. Omentin 1 and IL-6, creatinine, glycated haemoglobin (HbA1c), fasting (FBG) and postprandial blood sugar (PPBS), lipid profile, total protein, albumin, and fasting insulin, HOMA-IR were studied.

Observation: Our study showed that Omentin 1 levels were decreased, and IL-6 levels were increased in the DN group compared to the T2DM without DN. The
To Assess the Effect of DSME on HbA1C Levels in Diabetic Patients

Gaurav, VR Singh, Maniram Kurnuar

Journal of Medical College, Ajmer

Diabetes mellitus (DM) is a chronic metabolic disease with debilitating complications. Diabetic Patients follow self-care activities like healthy diet, physical activity, self-monitoring of blood glucose, treatment compliance in order to achieve good glycaemic control, to control the progression of the disease, reduce complications, and quality of life improvement. We aimed to assess the effect of diabetes self-management education program on HbA1C levels in patients with diabetes.

Material: The present study was conducted at a tertiary care centre in central Rajasthan after written consent. Adults with 18 years and above age with diabetes were included. Patients who refused to give consent, critically ill patients, pregnant females, patients with severe cognitive impairment, and those whose targets were achieved were excluded. It was an open label randomised control study. Simple randomization was done. Cases were then provided with Diabetes Self-management Education (DSME). The information was provided in local language. One year twenty students were studied during the period from 01/12/2020 to 1/12/2021. All patients represented 57.5%. About two-thirds were from urban areas. 59.16% were diabetics for 5-10 years. After the DSME program, there was a statistically significant decrease in HbA1C level in intervention group compared to controls (p value<0.05). 56% used oral hypoglycaemic agents, 24% used insulin and 20% used combination therapy of oral hypoglycaemic agents and insulin. Hypertension was the most common co-morbidity followed by dyslipidemia among patients. There was no significant difference in gender and duration of diabetes between the two groups.

Discussion: DSME plays a significant role in enabling patients to undertake self-management activities to combat diabetes-related complications and potential premature deaths.

Conclusion: DSME may prevent the onset and the progression of diabetic complications. It is important and promising to raise the self-management capacity of Type 2 Diabetes mellitus patients in low-resource settings.

Serum Amylase and Lipase Estimation in Diabetic Ketoacidosis

Divya Chandra, MM Buvavaru, Ramya MR, Anand AV, Sandhya R

Myore Medical College and Research Institute, Mysore

Diabetic ketoacidosis is one of the hyperglycemic emergencies, there is insulin deficiency coupled with concomitant hyperinsulinemia. Normal counter regulatory hormones. This hormonal imbalance promotes gluconeogenesis, glycogenolysis, glycoegenolysis, protein breakdown and lipolysis. This syndrome is like nausea, vomiting, epigastric pain can be present in acute pancreatitis also. From various studies it has been identified that in DKA, non specific increase of lipase activity is observed. This occurs in 16-25% of cases. Elevation of serum amylase and lipase levels in association with severe abdominal pain often trigger an acute evaluation. However, the study which was carried out to study the elevation of serum amylase and lipase levels in patients with DKA.

Material: This cross sectional study was conducted in department of Medicine KR Hospital, Mysore medical college and research institute, mysore during the study period of six months from June 2021 to November 2021. A total of 50 patients were included in the study after fulfilling the inclusion and exclusion criteria.

Observation: Among 50 cases studied, 9 cases (18%) with DKA were showing elevation of serum amylase levels and 13 cases(26%) of cases are showing elevation of serum lipase. 34 cases (68%) were female. Among the 50 cases studied, infection is the most precipitating factor seen in 34cases (68%), followed by omission of insulin in 12 cases (24%), unidentified cause in 4 cases (8%).

Conclusion: Significant elevation of serum amylase and serum lipase which are more specific for diagnosis of acute pancreatitis. Both amylase and lipase have high specificity and serum lipase which are more specific for diagnosis of diabetic ketoacidosis. Elevated serum amylase and lipase can occur in patients with DKA probably due to metabolic derangement, decreased enzymes and not due to acute pancreatitis. The clinician must take these data into account when evaluating abdominal symptoms in DKA patients.

Identifying Population at Risk for Diabetes Mellitus through International Diabetes Federation Questionnaire – A Simple Yet Valuable Tool

Thennozhi S, Girija S, Vignesh Kumar VA

Sn Manakula Vinayagar Medical College and Hospital, Puducherry

“Prevention is better than cure.” This strategy cannot be overlooked among patients with diabetes mellitus. We utilized the International Diabetes Federation (IDF) questionnaire, with additional modifications, to assess the risk of DM to identify the population at risk, based on non-laboratory evaluation.

Material: This study was conducted on the occasion of WDD 2021, a 3-day diabetes awareness program in the Department of Medicine, a tertiary care hospital for all people aged ≥18 years were eligible to participate. Participants with a history of a diagnosis of DM anytime or already on anti-diabetic medications and those who did not consent were excluded. We utilized the IDF questionnaire with 8 questions including non-modifiables, age, gender, family history, gestational DM, hypertensive, and modifiable risk factors (body mass index, waist circumference, physical activity, high fiber diet). We added two more questions – willingness to participate (volunteered or easily convinced) and history of Coronavirus Disease (COVID-19) infection.

Observation: A total of 442 participants were screened; 319 (72.2%) participants were young (<45 years), 231 (52.3%) of them were females, 358 (81%) volunteered to participate in the study and 50 (11.3%) of them had COVID infection during the pandemic. Around 211 (47.7%) were participants were young (<45 years), 231 (52.3%) were females, 358 (81%) volunteered to participate, and 50 (11.3%) of them had COVID infection during the pandemic. Around 211 (47.7%) were

Discussion: The prevalence of OSA is estimated to be 2-4% in the general population but high among diabetics. Since intermittent hypoxia has shown to exert adverse effects on glucose metabolism, OSA increases the risk of developing T2DM and contributes to poor glycemic control. Studies show that people with diabetes with severe OSA had higher HbA1C levels compared to non-apneic people, and implicated that OSA is a pro-inflammatory state wherein low-grade inflammation markers like hsCRP, IL-6, etc. have been found to be higher in OSA. The above study aims to study the correlation between OSA, hsCRP levels, glycemic control and presence of microvascular complications in diabetics.

Material: This cross-sectional study was conducted in the hospitals attached to BMMC. 100 patients with T2DM fitting the ADA criteria were screened by the STOP-BANG questionnaires and were divided into OSA risk groups based on STOP-BANG score; 0-2, 3-4 and 5-8 indicated low, intermediate and high risk respectively. hsCRP levels were measured at 1 month to assess microvascular complications, patients were subjected to Toronto clinical neuropathy score for diabetic neuropathy, fundoscopy for diabetic retinopathy and carotid ultrasound to assess microvascular complications.

Observation: Out of the 100 patients, 16 were in high risk, 68 in intermediate risk and 16 in low risk group.

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There was a difference in HbA1c between the three OSA groups indicating poorer glycemic control in high risk group which was statistically significant (p<0.04).

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<th>Table 2: Comparison of hsCRP</th>
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It was seen that mean hsCRP was higher in high risk group for OSA compared to other two groups indicating higher grade of inflammation in the high risk group. This was a statistically significant correlation between STOP BANG score [indicating OSA risk] and hsCRP(r=0.25;p=0.012) and STOP BANG SCORE and microvascular complications, patients were more for diabetic neuropathy [r=0.346;p=0.0004], UMC [for diabetic nephropathy] [r=0.44;p=0.000] and absence of diabetic retinopathy based on AOS [0.005].

Conclusion: All diabetic patients should be screened for OSA which is simple and inexpensive. Those who fall in intermediate risk and high risk category.
Microvascular complications specially Nephropathy. Hypomagnesemia may be a cause for microvascular disease uncontrolled with anti diabetic drugs or insulin, as should be considered in patients whose blood sugar control is not acceptable. This was corresponding to the need of the day as diabetes is on the rise worldwide, early screening and detection of its complications is crucial. The first clinical sign of renal dysfunction in diabetes is microalbuminuria. Ferritin may have a possible role in the development and progression of DM Type 2 and its complications.

**Material:** The study was conducted in Padmashri DY Patil Research Hospital and Research centre, Pimpri, Pune from Sept 2020 to Aug 2021. A total of 100 patients of Type 2 Diabetes Mellitus were included and their infections associated with type 2 Diabetes Mellitus were studied.

**Observation:** Infections associated with Diabetes Mellitus were Urinary Tract Infections, Dental caries, Skin infections like Tina, Carbuncle and furuncle, Pneumonia, Empyema, Pyelonephritis, Diabetic foot.

**Conclusion:** The present study evaluated patients with Type 2 Diabetes Mellitus. Their infections were associated with urinary tract infections. This was corresponding to the need of the day as diabetes is on the rise worldwide, early screening and detection of its complications is crucial. The study design was a cross sectional study.

**Observation:** In this study 50.4% of the patients were males and 49.6% were females. Overall, mean age of the study was 49 years. The mean BMI of the study population was 26.43 ± 5.11 kg/m2 in this study majority of the patients with hypomagnesemia Mg > 1.7 mg/dl had microvascular complications. Patients with hypomagnesemia were showing significant association with nephropathy (p <0.001, r = -0.40), neuropathy (p =0.009), retinopathy (p <0.007) and cardiovascular disease (p =0.001).The study did not show significant correlation with hypotension and cerebrovascular events.

**Conclusion:** Measurement of serum magnesium should be considered in patients whose blood sugar is uncontrolled with anti diabetic drugs or insulin, as hypomagnesemia may be a cause for micro vascular complications of diabetes. Supplementation of magnesium is also cost effective and should be done if patient is found hypomagnesemic.Magnesium levels correlate with Microvascular complications specially Nephropathy.

**Study of Serum Magnesium Level in Diabetes Mellitus and it’s Correlation with Micro and Macro Complications**

Prashant Kumar Batar
SPMC Bikaner

Magnesium system effects of diabetes mellitus such as retinopathy, nephropathy, neuropathy and cardiovascular diseases are important public health concerns. A number of studies have reported the association between magnesium (Mg) and diabetes and its complications. However, conclusions were inconsistent. The objective is to estimate level of serum magnesium in the development and progression of DM Type 2 and its complications.

**Material:** The present study was conducted in the Department of Medicine, S.P. Medical College & Associated Government Medical College, Bikaner over a period of 6 months. The study design was a cross sectional study.

**Observation:** In this study 50.4% of the patients were males and 49.6% were females. Overall, mean age of the study was 49 years. The mean BMI of the study population was 26.43 ± 5.11 kg/m2 in this study majority of the patients with hypomagnesemia Mg > 1.7 mg/dl had microvascular complications. Patients with hypomagnesemia were showing significant association with nephropathy (p <0.001, r = -0.40), neuropathy (p =0.009), retinopathy (p <0.007) and cardiovascular disease (p =0.001).The study did not show significant correlation with hypotension and cerebrovascular events.

**Conclusion:** Measurement of serum magnesium should be considered in patients whose blood sugar is uncontrolled with anti diabetic drugs or insulin, as hypomagnesemia may be a cause for micro vascular complications of diabetes. Supplementation of magnesium is also cost effective and should be done if patient is found hypomagnesemic.Magnesium levels correlate with Microvascular complications specially Nephropathy.

**Association of Serum Ferritin Levels with Microalbuminuria, Glycemic Control and Dyslipidemia**

K Dubey, K Usman, SC Chaudhary, KK Sawelmi, SK Verma, W Amin
King George’s Medical University, Lucknow

As diabetes is on the rise worldwide, early screening and detection of its complications is crucial. The first clinical sign of renal dysfunction in diabetes is microalbuminuria. Ferritin may have a possible role in the development and prediction of microalbuminuria and other complications of diabetes by 3 possible mechanisms: 1) it is a marker of elevated body iron, 2) acts as acute-phase reactant and elevation reflects inflammation 3) Delayed clearance of glycosylated ferritin in patients with diabetes causes raised ferritin levels. However, this association was found to differ between serum ferritin levels and microalbuminuria, glycemic control and dyslipidemia in type 2 diabetic patients.

**Material:** A cross-sectional study was carried out at a tertiary hospital in northern India involving 152 patients of type 2 diabetes mellitus. Anthropometric measurements (weight, height), and for basic laboratory parameters including complete blood count, kidney function tests, liver function tests, HbA1c, fasting plasma glucose, serum iron and ferritin levels, urinary albumin:creatinine ratio were done. A fundus examination was performed. Results were analyzed using descriptive statistics and correlation coefficient. Categorical data were summarized as proportions or percentages while discrete as mean. Chi-square test was used for testing associations.

**Observation:** Mean serum ferritin levels were significantly higher in patients having microalbuminuria as compared to those with no albuminuria (mean 539 vs 292, p-value 0.04). Patients having poor glycemic control (HbA1c > 7) had higher ferritin levels (p-value 0.01). Patients with hypertension (p-value 0.01) and cardiovascular disease (p-value <0.001, r = -0.48) had higher ferritin levels. Those with retinopathy (p <0.009) and nephropathy (p <0.007) had higher ferritin levels. Similarly, patients with hypertriglyceridemia had a higher prevalence of diabetic retinopathy (p-value 0.003) and higher triglyceride levels (p-value 0.041).

**Conclusion:** Ferritin can act as a marker of diabetic nephropathy and dyslipidemia in type 2 diabetic patients. Our study, therefore, indicates that programs to prevent complications of diabetes would be more effective by placing greater emphasis on patients having higher ferritin levels.

**Efficacy and Safety of a Fixed Dose Combination of Remogliflozin Etabonate and Vildagliptin in Patients with Type 2 Diabetes Mellitus: A Randomized, Active-Controlled, Double-Blind, Phase III Study**

Kiran Khaladkar, Bijj Mohan, Kiran Khaladkar, Sachin Suryawanshi, Hamant Barkate

Glenmark, Mumbai

Remogliflozin Etabonate (RE) & Vildagliptin are twice-daily medications that are individually approved and widely used in India for the treatment of diabetes. A single pill fixed dose combination of RE & Vildagliptin was formulated as potential pharmaco-therapeutic agent that would not only offer beneficial pharmacologic effects, but also reduce the pill burden, leading to a simplified treatment regimen with better treatment compliance. The fixed dose combination of Remogliflozin Etabonate 600 mg + Vildagliptin 50 mg (RV) given twice daily with Metformin 1000 mg + Vildagliptin 50 mg (VM) was found to be non-inferior to Metformin alone in reducing HbA1c levels and higher triglyceride levels (p-value- 0.04). Patients having poor glycemic control (HbA1c > 7) had higher ferritin levels (p-value 0.01). Patients with hypertension (p-value 0.01) and cardiovascular disease (p-value <0.001, r = -0.48) had higher ferritin levels. Similarly, patients with hypertriglyceridemia had a higher prevalence of diabetic retinopathy (p-value 0.003) and higher triglyceride levels (p-value 0.041).

**Conclusion:** Ferritin can act as a marker of diabetic nephropathy and dyslipidemia in type 2 diabetic patients. Our study, therefore, indicates that programs to prevent complications of diabetes would be more effective by placing greater emphasis on patients having higher ferritin levels.

**Background and Objectives:** Diabetes produces a number of biochemical, morphological, and functional abnormalities that can affect the kidney, cardiovascular and neurologic systems, as well as the skin and liver by altering collagen and elastic fibers. Diabetics’ lungs show histologic alterations such as thicker alveolar epithelium and pulmonary capillary basal lamina, resulting in decreased pulmonary elastic rebound and lung volume. Spirometry is a test to assess lung function in various respiratory diseases. The aim of our study was to assess the lung function by spirometry in patients with diabetes mellitus with no respiratory complaints and compare with lung function among healthy controls. Our additional intention was to find out the association between duration of disease and lung function impairment, if any, and further to compare impairment in lung function, if any, between diabetic patients with controlled and uncontrolled glycemic status. We also compared lung function between diabetic patients with controlled complications and diabetic patient without diabetic complications.

**Material and Methodology:** This cross-sectional observational study was conducted in Department of Medicine. Patients attending the Medicine OPD for Diabetes Mellitus with no respiratory complaints were interviewed. All required procedures of approval and exclusion criteria, qualifying subjects underwent detailed history, clinical examination, routine investigations and spirometric testing. A total of 152 patients were included in the study. A total of thirty age and sex matched apparently healthy subjects were also taken as controls.

**Observation and Results:** In our study, FEV1 (Measured Value) was normally distributed and, therefore, student t-test (2 tailed) was used to analyze the difference between the groups. No statistically significant difference was found between the cases and controls (p value = 0.336). FVC was also normally distributed and, therefore, student t-test (2 tailed) was used to analyze the groups. No statistically significant difference was found between the cases and controls (p value = 0.336). The Mean ± SD of FEV1 (Measured Value) was 2.55 ± 0.6 for the diabetic subjects with duration 0-5 Years, 2.21 ± 0.69 for those with duration 6-10 Years and 2.53 ± 0.67 for those with duration >10 years. No statistically significant difference was found between the three groups (p value 0.433) as assessed by One way ANOVA. The Mean ± SD of FVC (Measured Value) was 3.29 ± 0.67 for those with duration 0-5 Years, 2.93 ± 0.79 for those with duration 6-10 Years and 2.95 ± 0.63 for those with duration >10 years. No statistically significant difference was found between the groups (p value 0.563). On basis of spirometry interpretation out of 30 cases, 2 patients (6.67%) were found to have a restrictive pattern of airway disease. On other hand, all controls were found to have a normal pattern of spirometry. No statistically significant difference between spirometric parameters of FEV1, FVC, FEF25-75%, FEV1/FVC, FEV1/FVC, FEV25-75% found between diabetic subjects with and without complications abdu among diabetics with controlled and uncontrolled diabetes.

**Conclusion:** This study shows that spirometric values of FEV1, FVC, FEF25-75%, FEV1/FVC, FEV25-75%, and FEV1/FVC do not show any significant difference between diabetic subjects who were not having respiratory complaints and healthy controls. Also, duration of disease and presence of other diabetes related complications do not affect the lung function among diabetics. So, unlike eye and kidney, there is no need for screening for spirometry normally among diabetics with no respiratory complaints.
Association of Serum Magnesium Levels Among Type 2 Diabetes Mellitus Patients with Diabetic Retinopathy

Manoj Chandra MC, Laxmegowda
Mysore Medical College and Research Institute, Mysore

Magnesium is the fourth most common cation in the body. This ion is now established as a central electrolyte in a large number of cellular metabolic reactions. Low magnesium levels have been found to be associated with peripheral vascular disease, and have been strongly associated with risk of type 2 diabetes. Hypomagnesemia has been definitely shown to be associated with increased risk of Diabetic Retinopathy. Value of association with retinopathy has been inconclusive and hence this current study has been undertaken to evaluate the association of serum levels of magnesium with diabetic retinopathy and correlation with long term control of diabetes mellitus.

Material: There are 150 eligible patients selected from the opd of tertiary care center moyer, marmara from jan 2020 to dec 2020. It is a hospital based cross sectional study, and statistical software namely EpiInfo and open epi software were used for the analysis of the data obtained.

Observation: The present study included 150 type 2 diabetes patients. Out of 150 diabetic patients 99 were male and 51 were female with male to female ratio was 2.1:1. We found that the maximum number of patients were from the 55-60 years group. The minimum age in the case group was 37 years and the maximum age was 76 years, with the mean being 55 + 8 years. Maximum patients had (29.34 %) PDR, whereas least common (5.33 %) had very severe NPDR, moderate NPDR in 26 % of patients, on the other hand No And Severe NPDRseen in 16 % and 12.85 % respectively. Relationship between grade of retinopathy and serum magnesium level shows that mean of PDR was 1.6 with less standard deviation with narrow confidence interval which make it more reliable value. Relationship between prevalence of diabetic retinopathies and serum Mg level shows that around 70 % diabetic patients have Mg level in between 1.8 to 2.5 mg/dl, maximum patients have moderate NPDR (31) out of 110 patients. It showed that serum magnesium level has statistically significant association with types of retinopathies.

Conclusion: In patients with retinopathy Serum Mg level was significantly low as compared to those without retinopathy. The serum mean Mg was significantly low in patients PAs compared to those with NP.

Conclusion:

This study suggests measurement of C-peptide levels can be used to provide an index of endogenous insulin production and pancreatic beta cell function. It suggests that adiponectin may take part in the pathogenesis of diabetes mellitus.

Effects of Dipeptidyl Peptidase Inhibitors-4 and Sulfonylurea on Serum Adiponectin Levels in Patients with Newly Diagnosed Type 2 Diabetes Mellitus

Saket Ramraka, Dhiraj kishore, Amita Dwarkan, Anuj Kumar, Abhishek Rai, Shubham Jain 1 kumar
Institute of Medical Sciences, Varanasi

Diabetes mellitus implies a group of common metabolic disorders that share a phenotype of hyperglycemia. Peripheral insulin resistance and impaired insulin secretion forms two legs of this common, globally important non- communicable disorder. Adiponectin is a hormone released by adipocytes which aids in enhancing insulin sensitivity, decreasing inflammatory mediators. Baseline adiponectin in newly diagnosed diabetes and changes in adiponectin levels in metabolic parameters highlights the gravity of this molecule in more refined diagnosis and treatment of diabetes.

Aims: The objective was to ascertain change in adiponectin value in diabetes patients on DPP-4 inhibitors or SU group drugs. Another objective was to find out correlation of serum adiponectin levels with various cardiometabolic risk. Rationale: This study helps to provide an index of endogenous insulin production and pancreatic beta cell function. It helps to develop newer therapies aimed at suppressing glucagon levels for achieving glycemic control in diabetic patients.
Cardiology

A Prospective Study of Risk of Arrhythmias in Patients with Myocardial Infarction in a Tertiary Care Center

Mithun R, Reda MC
Mandya Institute of Medical Sciences, Mandya

Acute Coronary Syndrome (ACS) is an emerging epidemic in India. Coronary heart disease (CHD) affects 15-20% of patients with acute MI, studies have shown that arrhythmias are important predictors of poor outcome in patients with ACS. Arrhythmias are associated with higher in-hospital mortality. In this study an attempt is made to know the association of arrhythmias in patients of acute MI. A total of 100 patients are taken, which were admitted in various wards (medicine, rheumatology and general medicine) of our hospital. We have investigated the echocardiographic manifestations of systemic lupus erythematosus.

Exclusion Criteria:
- All cases with conduction defects due to other systemic causes.
- Previously known cases of atrial fibrillation.

Material:
A prospective clinical study consisting of 100 cases of acute coronary syndrome were taken to determine the occurrence of arrhythmia. All cases admitted in Mandya Institute of Medical Sciences were taken in the study. All cases of ACS with age, less than 50yrs and more than 18yrs, admitted in MIMs, Mandya were studied. ECG was done at the time of admission, fourth hourly on day of admission, daily morning and as and whenever needed, cardiac enzymes studies, and echocardiography were done. The patients were observed for conduction defects for 5 days after the admission or until they stay in the hospital whichever was earlier.

Conclusion:
- Patients with drugs, which may cause conduction defects, like Beta blockers, calcium channel blockers and Digoxin.
- The patients with history of IHD.

A Cross Sectional Study of Cardiovascular Manifestations of Systemic Lupus Erythematosus at Tertiary Care Center

Sushmitshari VN, G Rathnakumar, Rajkumar, Govindarajan, Subasivaraman
Tirunelveli Medical College, Tirunelveli

SLE is a systemic inflammatory condition which affects 0.1%-0.2% of the population, that can affect almost any organ or tissue. It affects both men and women. Most commonly, SLE affects the skin, joints, heart, lung and nervous system. Its cardiovascular manifestation is variable, ranging from indolent to fulminating. Mostly SLE patients presents with pericarditis, myocarditis, endocarditis, valves and the coronary arteries. The patients with cardiac involvement are mostly between 30-50 yrs of age.

Material:
This is a hospital based, single center cross-section study. This study includes known cases of SLE patients attending Rheumatology OPD, SLE patients admitted in various wards (rheumatology, nephrology and neurology) and newly diagnosed cases of SLE according to the new ACR/EULAR criteria. Patients were assessed for cardiac symptoms and signs. ECG, CXR and ECHO was performed in all the patients.

Exclusion Criteria:
- Patients with clinical features of myocardial infarction.

Observation:
Out of 34 patients cardiovascular involvement seen in SLE was 52% (18 patients). Of these, 29% (10 patients) had symptoms that could be attributed to the cardiovascular system. In this study, Hypertension is the most common presentation occurring in 17.1% (6 patients). Pericarditis was the next common finding present in 16.2% (5 patients). The majority of patients were asymptomatic. Valvar abnormalities seen in 2 (5.8%) patients. Myocarditis was seen in 2.9% patients. Conduction disturbances were seen in 12.5% (4 patients).

Association between Serum Lipid Profile and Renal Dysfunction in Patients with Heart Failure

Nikhil Basil Tom, Mohona Chakrabarty, Dipankar Deb
Silschar Medical College and Hospital, Silchar, Assam

Renal dysfunction often accompanies heart failure which leads to an increase in hospitalization and mortality. The pathophysiologic features have demonstrated that heart failure may cause renal reduction in cardiac output and decrease in oxygen delivery to the kidneys leading to the development of chronic renal disease. Thus, more attention should be paid to the associated risk factors with the aim to reduce the prevalence, hospitalization and mortality. According to recent studies, dyslipidemia has become one of the key risk factors which leads to progression of renal dysfunction in heart failure patients.

Material:
105 hospitalized heart failure patients with left ventricular ejection fraction (LVEF) ≤ 45%, and New York Heart Association (NYHA) class II–IV were enrolled for a study period of 6 months, that is from March 2021 to August 2021. The estimated glomerular filtration rate (eGFR) was calculated as renal dysfunction marker. Oxidative stress was measured simultaneously and with the echocardiography report. Significant cognitive impairment and worsening comorbidity were the main exclusion criteria.

Conclusion:
Among the 105 patients with heart failure, a total of 59 (56.2%) had renal dysfunction, and 46 (43.8%) did not have renal dysfunction. The high density lipoprotein cholesterol (HDL-C) and the left ventricular ejection fraction (LVEF) were positively correlated with estimated glomerular filtration rate (eGFR) (p<0.05), that is, were significantly lower in those patients with renal dysfunction than those patients without renal dysfunction and are related to increased interventricular septum thickness (0.99 ± 0.03 vs 1.14 ± 0.03, p<0.05). The high density lipoprotein cholesterol (HDL-C) and the left ventricular ejection fraction (LVEF) were positively correlated with interventricular septum thickness (0.99 ± 0.03 vs 1.14 ± 0.03, p<0.05). Therefore, HDL-C and LVEF are the independent predictors of renal dysfunction and cardiovascular disease.

A Study of Left Ventricular Dysfunction in Normotensive Non Diabetic Patients with Non-Alcoholic Fatty Liver Disease

Nikhil Basil Tom, Leenkumar Suresh, Saisaiwa Narayan, S. V. Kalidas
Sairama Medical College, Tirunelveli

Non-Alcoholic Fatty Liver Disease is an emerging epidemic in the face of the new generation. It is considered the hepatic manifestation of the metabolic syndrome. With the increasing prevalence of obesity and metabolic syndrome, it has become a common sight in our outpatient department. We have investigated the echocardiographic parameters for systolic and diastolic dysfunction in the patients with NAFLD to know whether the heart and its vessels are affected and hope our study could shine a light and provide us with the information regarding the various cardiovascular effects of NAFLD on our body.

Material:
We recruited 35 Normotensive, Non-Diabetic Fatty Liver Disease Patients (NAFLD) of age ranging from 18 to 60 years of age diagnosed on the basis of ultrasonography and biopsy report. All the patients were divided into both inpatient and outpatient department of Sairama Medical College and Allied Hospitals from the month of August 2021 to October 2021 for the study. Every Patient underwent conventional transosophageal and Transcatheter Doppler Echocardiography along with their laboratory workups. All the patients of NAFLD were graded ultrasonographically based on Hamaguchi et al criteria.

Observation:
NAFLD patients had higher Body Mass Indices. Coronary arteries and diaphragm are mostly asymptomatic. SLE can affect the heart and its vessels and the hepatic manifestation of the metabolic syndrome. With the increasing prevalence of obesity and metabolic syndrome, it has become a common sight in our outpatient department. We have investigated the echocardiographic
Coronary artery disease (CAD) is one of the commonest heart diseases, accounting for 5-8% global prevalence. Coronary artery disease gives a prevalence of 12.2% of CAD cases in young age group. When ethnicity is considered south Asians especially Indians are more vulnerable to have CAD in young age group with a prevalence of 5-10%. Predictable risk factors such as smoking, diabetes, hypertension, obesity and family history seems to be as important as risk factors in young CAD. Coronary angiographic studies shows predominance of single vessel disease in young CAD patients. Like CAD in older person primary and secondary prevention plays an angiogenic effect on reperfusion therapy, which reduces the risk of hospitalization and death from cardiovascular causes more effectively then angiogenics converting enzyme inhibitor therapy. In conclusion, successful thrombolysis is associated with reduced risk of hospitalization and death from cardiovascular causes or incident heart failure, outpatient symptomatic heart failure or heart failure leading to hospitalization whichever occur first. Observation: Total 566 patient was taken in randomization 238 receive sacubitril-valsartan and 238 receive ramipril over a median of 22 months. Results: Total outcome was death from cardiovascular causes is 7.5% in ramipril group and 6.7% respectively death from any other causes is 7.5% in ramipril group and 6.7% respectively. Prognostic Implications: A 12-lead ECG was recorded at the time of admission and a QT interval was measured manually from the onset of QRS complex to the end of T wave. The patients admitted were followed up for a minimum five days of their hospital stay to assess the outcome. Occurrence of sustained VT, VF, VPC or sudden death was considered to be an arrhythmic event. Observation: In patients who experienced arrhythmia, QTcd was 0.07±0.06 sec at admission and 0.04±0.03 sec after thrombolyis (p<0.0027). Among patients who did not experience any arrhythmia, QTcd was 0.04±0.02 sec at admission and 0.02±0.03 sec after thrombolyis (p<0.001). Thus, patients who experienced arrhythmia had higher QTcd at admission and it remained on the higher side even after thrombolyis, probably due to failed reperfusion, in contrary to those without arrhythmia. There was a significant difference in the variation between arrhythmic event and outcome of a patient (p<0.001). QTcd showed significant statistical correlation after thrombolyis in predicting the outcome in MI patients (p<0.012) with median (IQR) 0.02±0.01 in discharged patients and 0.09±0.03 in patients who expired. Conclusion: Successful thrombolysis was associated with lower QTC in patients of AMI. Our data suppoports the hypothesis that QT dispersion after MI depends on reperfusion status. Reduction in QT dispersion may be a mechanism of benefit of thrombolytic therapy.

Lipid Profile Study in Patients Diagnosed with Acute Myocardial Infarction for First Time and Admitted in Tertiary Care Hospital Patna
Manjusha S Biradar, Ranagawati
Mysore Medical College and Research Institute, Mysuru

Coronary artery disease is a multifactorial disease affected by multiple factors. Dyslipidemia is one of the most important factor for athrosclerosis and its consequences. In this study the present the prevalence of lipid profile pattern in patients diagnosed with acute myocardial infarction. Material: The present study is a cross sectional study conducted at tertiary care hospital from september 2020 to 2021. A total of 80 patients with age more than 18year diagnosed with Acute myocardial infarction for first time were included in study after receiving informed consent. Major exclusion was diagnosed by patients history, ECG,cardiac biomarkers. Patients with hyperthyroidism and already on antilipidemics were excluded from study.

Conclusion: Out of 80 patients there were 62 male patients (77.5%) and 18 female patients (22.5%). 66 patients were diagnosed with STEMI and 14 patients had NSTEMI(17.5%). Patients with age more than 18years age were included in study with mean age value of 55.98±13.47. The mean value of total cholesterol level was 275 mg/dl +/- 62.48. The LDL cholesterol level was 199.53 mg/dl +/- 35.67. The mean HDL cholesterol level was 42.14 mg/dl +/- 68.85 mg/dl. 46.25% patients had low HDL cholesterol level (40 mg/dl). The number of patients with high / very high triglycerides level (> 200 mg/dl or 500 mg/dl) were 23.25% patients. The number of patients with optimal lipid level, 76.25% patients total cholesterol level (< 240 mg/dl) was 81.25% of patients had LDL cholesterol level < 160 mg/dl, 53.75% of patients had LDL cholesterol level > 40 mg/dl, 78.75% patients had triglycerides level < 200 mg/dl.

Conclusion: Atherogenic lipid profile is one of the common risk factors in patients other than non lipid factors. This study demonstrated that atherogenic lipid is most commonly found in patients with decreased HDL cholesterol level. Hence, more attention needs to be paid to serum lipid and other modifiable risk factors in prevention of AMI and advice regarding good dietary habits and exercise to prevent such events at community level.

Observation: Successful thrombolysis is associated with reduced risk of hospitalization and death from cardiovascular causes or incident heart failure, outpatient symptomatic heart failure or heart failure leading to hospitalization whichever occur first. Observation: Total 566 patient was taken in randomization 238 receive sacubitril-valsartan and 238 receive ramipril over a median of 22 months. Results: Total outcome was death from cardiovascular causes is 7.5% in ramipril group and 6.7% respectively death from any other causes is 7.5% in ramipril group and 6.7% respectively. Prognostic Implications: A 12-lead ECG was recorded at the time of admission and a QT interval was measured manually from the onset of QRS complex to the end of T wave. The patients admitted were followed up for a minimum five days of their hospital stay to assess the outcome. Occurrence of sustained VT, VF, VPC or sudden death was considered to be an arrhythmic event. Observation: In patients who experienced arrhythmia, QTcd was 0.07±0.06 sec at admission and 0.04±0.03 sec after thrombolyis (p<0.0027). Among patients who did not experience any arrhythmia, QTcd was 0.04±0.02 sec at admission and 0.02±0.03 sec after thrombolyis (p<0.001). Thus, patients who experienced arrhythmia had higher QTcd at admission and it remained on the higher side even after thrombolyis, probably due to failed reperfusion, in contrary to those without arrhythmia. There was a significant difference in the variation between arrhythmic event and outcome of a patient (p<0.001). QTcd showed significant statistical correlation after thrombolyis in predicting the outcome in MI patients (p<0.012) with median (IQR) 0.02±0.01 in discharged patients and 0.09±0.03 in patients who expired. Conclusion: Successful thrombolysis was associated with lower QTC in patients of AMI. Our data suppoports the hypothesis that QT dispersion after MI depends on reperfusion status. Reduction in QT dispersion maybe a mechanism of benefit of thrombolytic therapy.
Acute myocardial infarction (AMI) is a serious and fatal condition. The gold standard for screening tools and treatment interventions to reduce the incidence, prevalence of atherothrombotic disease.

The study conducted a hospital-based cross-sectional study was conducted on patients between the age of 18-49 years, admitted in the ICU fulfilling the inclusion criteria. All the patients who had undergone coronary angiography and satisfying the inclusion criteria were recruited. A total of 104 patients were enrolled. Investigations like complete hemogram, fasting lipid profile (FLP), ECG, ECHO and angiography reports were carried out and results of coronary angiography were noted. Correlations of SVD, TVD, T波 inversion, p levels, lipid profiles- total cholesterol (TCH), HDL, LDL were carried out.

**Observation:**

1. Majority of patients were from 51-60 years age group (43.59 %). Male predominance (84%) compared to females (16%).
2. Acute myocardial infarction (AMI) was the most common presenting complaint (74.47 %) followed by palpitations (69.5%) and pedal edema (55.3%). Rheumatic heart disease was the commonest etiology (40.45%) followed by hypertension (21.27%) and ischemic heart disease (17%).
3. In patients with the mean CHADS2- VASc score was 2.7±1.99. Out of 141 patients, all 141 were indicated for anti-arrhythmic therapy. Among these 141 patients, 129 (91.49%) were prescribed anti-arrhythmic therapy, of which 108 (83.91%) received oral anticoagulants, 36 (27.94%) received anti-platelets while 129 (93.80%) received both aspirin and oral anti-coagulant.
4. The treatment guidelines for the stroke prevention in atrial fibrillation were followed in 91.49% patients by the treating physician in compliance with anti-thrombotic recommendations for stroke prevention in atrial fibrillation according to CHADS2-VASc score. Statistical analysis was done by using STATA, version 10.1,2011.

**Conclusion:**

We conclude that left ventricular diastolic and systolic dysfunction also occurs in patients who having early stage of CKD. But patients with hypertensive CKD had higher prevalence of diastolic and systolic dysfunction as compared to normotensive counterparts.

**Prevalence of Microalbuminuria in Non Diabetic Ischemic Heart Disease Patients**

Neeraj Shet, Deepak Bhosle
Bharati Vidyapeeth Medical College
Gadag

Ischemic heart disease (IHD) is atherosclerotic narrowing of coronary arteries that is often asymptomatic early in the course of the disease but may lead to stable angina or myocardial infarction with the progressive thickening or plaque rupture of the wall of the coronary arteries. Ischemic heart disease has now become one of the leading causes of death worldwide, accounting for more than 7.3 million deaths in 2018 alone. Microalbuminuria is a widely recognized, strong and early marker of cardiovascular risk. It is often associated with diabetes mellitus was documented by no history of diabetes mellitus and evaluating serum blood glucose and HbA1C. Presence of microalbuminuria was confirmed by microalbumin quantitative estimation.

**Observation:**

The mean age of the patients was 54.23 ± 14.44 years, ranging between 27 to 82 years. There was male predominance (84%) compared to females (16%). 51% of patients were smokers while 25% were alcoholics. Hypertension was reported to be the most prevalent comorbidity followed by Hyperhomocysteinemia and Hypercholesterolemia. The absence of microalbuminuria was found among 43 out of total 100 patients. Therefore, the incidence of microalbuminuria was 43%. There was no significant difference in the means of BSL, HbA1c and creatinine noted among the groups based on presence or absence of microalbuminuria.

**Conclusion:**

In the present study high prevalence of microalbuminuria was noted in IHD patients, which might be caused due to presence of hypertension. Therefore, the present study recommends further research to identify high-risk individuals for IHD, for primary prevention of it.
Diabetes mellitus is a global health problem. Cardiovascular events account for approximately 50 percent of deaths in diabetics. Diabetics are also at risk of silent myocardial ischaemia, which is a strong predictor of mortality. Thus, it is suggested to screen all asymptomatic diabetics for underlying myocardial ischaemia by MPI, preferably, at the time of diagnosis. The outcome measures were cut off levels of NT-ProNP for predicting silent myocardial ischaemia based on TMT.

The correlation of random blood sugar levels and clinical outcome in patients with acute coronary syndrome was studied at the tertiary care centre. Of the total 100 patients studied, adverse cardiovascular outcomes were seen more commonly in patients having on admission rbs readings above 200mg/dl and hba1c of greater than 8%. The most common adverse outcome noted was heart failure with reduced ejection fraction. Second most common adverse outcome was arrhythmias. With the rise in sedentary lifestyle and poor dietary habits, the incidence of diabetes is increasing too. Diabetes is an independent risk factor for coronary artery disease. Raised blood sugar levels could be due to diabetes or a marker of metabolic syndrome. Raised blood sugar levels increase oxidative stress, endothelial dysfunction and impair fibrinolysis thereby leading to adverse cardiovascular events. Random blood sugar levels could also indicate insulin resistance or beta cell failure which could have a detrimental impact in patients with various other pathological conditions. Random blood sugar is a relatively easy test to perform and can hence be used as a marker of prognosis in mi patients.

Myocardial infarction is the death of a portion of myocardium due to a prolonged ischaemia. Myocardial infarction is the leading cause of mortality around the globe. Mortality could be due to various complications of mi such as ventricular failure, cardiogenic shock and arrhythmias. With the rise in sedentary lifestyle and poor dietary habits, the incidence of diabetes is increasing too. Diabetes is an independent risk factor for coronary artery disease. Raised blood sugar levels could be due to diabetes or a marker of metabolic syndrome. Raised blood sugar levels increase oxidative stress, endothelial dysfunction and impair fibrinolysis thereby leading to adverse cardiovascular events. Random blood sugar levels could also indicate insulin resistance or beta cell failure which could have a detrimental impact in patients with various other pathological conditions. Random blood sugar is a relatively easy test to perform and can hence be used as a marker of prognosis in mi patients.

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Hypertension

Blood Pressure Monitoring in Normotensive Type – 2 Diabetics Using 24 hr Blood Pressure Monitoring Device and its Relationship with Anthropometric Measurements: A One Year Hospital Based Cross Sectional Study

Vivak J, Jawaharlal Nehru Medical College, Belagum

Systemic Hypertension (HTN) is one of the most common co-morbidities in Diabetes Mellitus (DM). Because of the drawbacks of office blood pressure monitoring, it has been replaced by ambulatory (ABPM) blood pressure monitoring (ABPM) be used for hypertension assessment. The sensitivity of Clinic/Office monitoring of BP to predict hypertension-associated organ damage is less. Hence the present study was carried out to estimate the prevalence of hypertension in normotensive type 2 diabetic patients by using 24 hr ambulatory blood pressure memory device and also to assess the relationship between blood pressure patterns and anthropometric measurements in overweight and type 2 diabetes.

Material: A 1 year cross-sectional hospital-based study was conducted on 162 people, attending a tertiary care institute over the age of 18, who had type 2 diabetes and a Body Mass Index (BMI) of 25 to 40 kg/m2 (Asian cut-off > 23 kg/m2). All subjects underwent a standardized medical examination including anthropometric measurements, laboratory tests, 24 hour ambulatory blood pressure monitoring. Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. P value<0.05 was considered statistically significant.

Observation: The mean age was 60.65 ± 11.46 years. Majority were males (62.35%). The mean BMI was 28.31 ± 2.36 kg/m2. All day SBP was 133.66 ± 13.53 mm Hg whereas the mean all day DBP was 76.45 ± 10.99 mm Hg. The prevalence of HTN as measured by all day SBP was 77.78% while it was 42.96% for all day DBP. Systolic non-dipping was seen in 93.39% of overweight and 90.24% of obese subjects as classified by BMI, respectively. There was a statistically significant association between all day SBP, all-day DBP, day SBP and day DBP with BMI (P Value<0.05) in males. But in females, there was a statistically significant association between all day SBP, day SBP with BMI only (P Value<0.05).

Conclusion: The present study was one of the kinds in the study region as there was no report of ABPM parameters in the study region as there was no report of ABPM parameters in the study region. The study was conducted at GMC Kota, a teaching and training hospital in the region. It is the first of its kind to be reported from routine ABPM by early identification and management of Hypertension in Type 2 DM.

Study of Correlation of Microalbuminuria and Lipid Profile in Hypertensive Individuals

Navya Deep, G H Das, MS, DM, AIIMS, New Delhi

Hypertension is one of the leading causes of the global burden of disease. Screening for microalbuminuria is a sensitive, reliable and accessible test for renal disease and CV morbidity or mortality in hypertension. Reducing SBP but not DBP leads to a decrease in microalbuminuria. Therefore this study is intended to study the association of blood lipid levels and urine micromalbumin in hypertensive individuals in patients examined in Maxity Institute of Medical Science.

Material and Objectives: To study the correlation of microalbuminuria and lipid profile in hypertensive patients. The study is a Descriptive cross-sectional study over a period of one year (JUNE 2020- JUNE 2021). A total of 200 hypertensive patients admitted to the hospital or attending outpatient department with documented SBP ≥ 140 mmHg and DBP ≥ 90 mmHg in age less than 65 years and BMI > 24 were included in the study. History of treatment for hypertension were also included. Blood pressure was recorded with the patients sitting for ten minutes before recording and seated and an average of two readings on each of the two hospital visits. Lipid profile, blood sugar, urea and serum creatinine levels were also measured. Microalbuminuria was by spot urine microalbumin creatinine ratio (MCR) was done for all patients.

Observation: The prevalence of microalbuminuria was 51% in hypertensive individuals. TC, TG, HDL and Body Mass Index (BMI) were significantly higher in hypertensives with microalbuminuria than with normo-

Neurology

A Comparative Time Matched Hospital Based Study of First Ever Stroke Patients Admitted to Stroke Unit during Pre-Covid 19 vs Covid 19 Pandemic Era

Shubham Garg

GMC, Kota, Jaipur

SARS CoV-2 infection may lead to wide range of neurological complications, which range from anosmia to stroke. However, evidence for the number of first-time stroke admissions, but that these admissions are more severe. Therefore, to gain an insight into it, a retrospective study was conducted on first-ever stroke characteristics in pre-COVID 19 era and COVID 19 pandemic era at GMC, Kota, Rajasthan.

Material: The study was conducted at GMC Kota, a tertiary care hospital in Rajasthan. All patients having their first ever stroke and admitted to our stroke unit during COVID-19 period (April 2020-May 2020) and the COVID 19 period (April 2020-May 2020) were considered. The characteristics of stroke, the severity, the number of admissions per day, and demographic characteristics as well as the short-term outcomes were studied.

Observation: Of the 108 patients included, 44 (40.7%) presented during the COVID-19 period. There was a 36% reduction in first-ever stroke diagnoses from (1.05/day) to (0.72/day) (p<0.0001). The admission peak were five years ago (1999-2000) era (p=0.001). There was a statistically significant reduction in MRI use by 27% (p<0.05).

Conclusion: The observation suggests an overall reduced number of stroke admissions per day. Patients admitted were older and more severely ill. In COVID 19 era, mortality and discharge time were higher, along with a longer hospital stay. An overall reduction in the utilization of MRI was observed due to COVID protocol.

Study of Cognitive Impairment in Post Cerebrovascular Accident Patient

Agnibha Maiti, Niladri Sarkar, Sanchita Saha, Soumitra Ghosh, Nandini Chatterjee

Cerebrovascular accident is one of most common cause of cognitive impairment. We carried out a longitudinal study in patient of CVA in order to study changes in cognitive functions at 3 months, 6 months and 1 year. Also to investigate frequency of post stroke amnesic MCI, post stroke MCI, poststroke dementia.

Material: Patients were assessed with hindi version of MMSE which was validated by INDO-US cross national dementia study. Routine blood investigation, CT scan of brain, 2D echo, MRI Brain when necessary done.

Observation: Total 182 patients were studied. Among them 146 patient was of non hemorrhagic infraction and 36 patient was of hemorrhagic infraction. At 3 month incidence of cognitive impairment was 27%, at 6 month it was increased to 30% and at 1 yr follow up it was further increased to 32%. Majority of patients who developed cognitive impairment was greater than 60 yrs and a statistically significant association between age and cognitive impairment was found. Majority of cognitive impaired patients were illiterate thus this cavity has a significant protective role against cognitive impairment. There is involvement of left hemisphere in 78% of the cognitive impaired patients thus showing left hemisphere has more propensity to develop cognitive impairment. Majority of our subjects who developed cognitive impairment had cerebral non hemorrhagic infraction(81%). Increasing fasting blood glucose and serum LDL level showed a significant association with post stroke cognitive impairment. Majority of patients who developed cognitive impairment had hypertension(91%) thus showing hypertension has a significant association with post stroke cognitive impairment.

Conclusion: Cognitive impairment resulting from CV A is a significant impairement and it is referred as vascular dementia. Although prevalence estimated quiet lower in developed countries, the second most common cause of dementia accounting 10-25% after Alzheimers dementia. Primary and secondary stroke prevention is the second most common cause of dementia accounting 10-25% after Alzheimer’s dementia. Primary and secondary stroke prevention is an area of great research interest. Treatment of vascular risk factors (HTN, dyslipidemia, AF, Type2 DM) and early diagnosis and treatment of acute stroke is necessary to reduce incidence of post stroke cognitive impairment.

Study of Clinical Profile and Risk Factors for Icemic Stroke in Young Adults

Chethan AK, Ritu Gupta, Vinay Warkade

Netaji Subhash Chandra Bose Medical College, Jabalpur, MP

Stroke in young adults has become a rising concern in developing countries as it is a major public health impact by causing disability in the most economically productive years. Although stroke is uncommon in young age group, we are facing patients with ischemic stroke in young adults in daily practice.

Material: It is a prospective observational study in which patients with ischemic stroke fulfilling the inclusion criteria during a one year period from 1st April 2019 to 31st March 2020 were evaluated. Most of the patients were male (63%). The most common risk factors were dyslipidemia (67.1%), metabolic syndrome (64.3%), hyperhomocysteinemia (59.9%), smoking (52%) and hypertension (44.2%). Patients were further divided into two age groups (16-32 years and 33-49 years) for
Comparison. Metabolic syndrome and hypertension were significantly more frequent in age group of 33-49 years with p value of <0.05 but we could not find difference between two age groups for rest of the risk factors.

Conclusions: The traditional risk factors which were previously seen in older age group, but now we are encountering these risk factors in younger age group also. As we are encountering the risk factors of health education regarding lifestyle modification, health promotion for screening and treating these risk factors should be started to reduce the mortality and morbidity of stroke among socioeconomically active age group.

A Study of Catecholamine Levels in Acute ICH Patients and its Clinical Significance
Gaurab Guha Sarkar, Abhilasha Tripathi, Vipin Kumar, DK Patil, UK Mista, AK Pandey
Vivekananda Polyclinic and Institute of Medical Sciences, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Apollo Hospitals, IITT, Lucknow

ICH is one of the most serious neurological emergency which can occur at any age and which may lead to catastrophic outcome. We aim to evaluate serum catecholamine levels in acute ICH and correlate their levels with clinical parameters of stress and outcome.

Material: Consecutive patients with CT proven ICH within 7 days of ictus were included and their clinical finding, SIRS Parameters, GCS, NIH score, laboratory parameters, MRI findings of patients were analyzed. Serum Catecholamine (DA, NE, E) levels were measured by LCMS. The patients were followed up discharge and one month, thereafter by mortality and 1 month modified Rankin scale (good 0-2, poor >2).

Observation: There were 31 patients of acute ICH. Patients were admitted 1 to 2 days after ictus. Among the patients 19(61.3%) were male and 12 were female. Their age ranged from 31 to 86 with mean 53.3±16.7. History of hypertension was present in 27.3% of patients. Their average GCS was 12(6.4, 13.5) and NIHSS was 12.5 (8.5, 22). Their average ESR was 30 (13,56) and average CRP was 1.8 (1, 3). All patients had raised SIRS parameters. There was an increase in levels of Dopamine (63.2 pg/ml), Epinephrine (73.5 pg/ml) and Norepinephrine (390(pg/ml) on admission as compared to their levels 1 week after ictus or on discharge. The average NE (63.2 pg/ml), Epinephrine (73.5 pg/ml) and Norepinephrine (390(pg/ml) was helpful in large number of patients, good history, thorough physical examination & laboratory reports also were vital in establishing diagnosis.

Conclusion: CA surge is common in ICH patients and it correlates with severity and outcome of patient. It is commonly observed in young age group and wide range of age group. Serum catecholamine levels were higher in poor outcome patients.

Correlation between Serum Triglyceride Levels and Severity of Stroke
Ramya Devulapalli
Rangaraya Medical College, Guntur

Although dyslipidemia is a well established risk factor for coronary artery disease, its relationship to ischemic cerebrovascular disease has remained unclear, perhaps because of the diverse neuropathogenic nature of stroke. The relationship between plasma lipid abnormalities and ischemic cerebrovascular disease has remained unclear, perhaps because of the heterogeneous nature of stroke. The generation of free radical hydroxyl is catalyzed by iron released from the intracellular stores like ferritin during ischemia. Increase in ferritin may also cause progression of stroke by enhancing the release of glutamate from the brain cells. Glutamate triggers biochemical reactions that lead to brain cell death including the production of free radical in the brain tissue. The inflammatory marker ferritin has gained clinical interest as a prognostic marker in acute ischemic stroke.

Material: The study was a hospital based cross sectional study conducted in 100 consecutive cases of acute ischemic stroke meeting the selection criteria. Serum ferritin was measured on day 1, 7 and discharge. National Institute of Health Stroke Scale(NIHSS) scoring was applied at the time of admission and these patients were classified into mild, moderate and severe. Modified Rankin Scale(MRS) was applied to know the recovery of the patients after 4 weeks.

Conclusions: The minimum and maximum mean values of serum ferritin in the study were 31.7 and 511.5 respectively, with an average mean of 238.33. 61(61%) cases had high serum ferritin levels and 39 (39%) cases had normal serum ferritin. Among the 61 cases having high serum ferritin levels, 26 (40%) were in moderate category and 35(60%) were in severe category of NIHSS. On the other hand, among the remaining 39 cases who had normal serum ferritin, all the 39 cases come under moderate group and none in severe group. Out of 61 cases with high serum ferritin, 12 cases were in good outcome category and 49 cases in poor outcome category of MRS scores.

Conclusion: Pearson’s r correlation reveals positive correlation between serum ferritin and NIHSS score (p-value =0.00001). Pearson’s r correlation analysis also reveals positive correlation between serum ferritin and MRS (p-value =0.00001). The patients with higher serum ferritin levels at admission tend to deteriorate more when compared to patients with normal levels. Thus serum ferritin levels can be used as a prognostic marker in acute ischemic stroke patients.

Study of Risk Factors in Stroke Among Young Individuals at a Tertiary Care Hospital: A Retrospective Study
Parikshit J, Parikshit J, Rekha MC
VS Medical College, Mangalore

Stroke is the second leading cause of death worldwide. Stroke is responsible for 3.5% of DALY in India. Recently, ICMR has reported that stroke was 4th leading cause of death and 5 Years (DALY) in 2016. Globally almost half of the entire stroke burden now affects young individuals given that they have a greater likelihood to survive their strokes with long life spans ahead. The majority of authors are using the age of 45 as the group’s upper limit for stroke in young. This study is conducted to find out various risk factors and etiologies in young patients with stroke.

Material: A retrospective study consisting of 50 patients of stroke in young were taken to determine the risk factors. Patients between 18-45 years with clinical and radiological evidence of stroke were included. Relevant data was collected from MDR through structured proforma that included personal information, clinical findings and treatment details. Data was analysed using SPSS software. Patients with head injury were excluded from the study.

Observation: A total of fifty patients, 34(68%) males and 16(32%) females were included to have Stroke were taken in our study. Mean age of the study group was 32.7 years. The majority of the strokes occurred between 26-34 years. The risk factor which had the most common risk factor in stroke for young population was smoking(44%), Hypertension(36%), Alcohol(34%), Dyslipidemia(28%), Hypothyroidism(24%), APLA syndrome(23%), Narrow carotid artery(20%), APLA syndrome(4%), Tuberculosis (2%) etc. In our study 47 patients (94%) had ischemic stroke and 3 patients (6%) had hemorrhagic stroke. Among patients with
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Sun Pharma Laboratories Ltd.
Sun House, Plot No. 201 B/1, Western Express Highway, Goregaon (East), Mumbai - 400 063, India
Stroke is a devastating and disabling cerebrovascular disease with some amount of residual deficit leading to economic loss. From 2010, the absolute numbers of people with stroke in India are projected to be 25.5 million by 2050. In a large study in India stroke survivors (33 million), stroke related deaths (5.9 million), National Commission on Macroeconomics and Health, estimated 1.67 million stroke cases in India suggesting that it can be a rising epidemic in the near future. This may be due to the high prevalence of hypertension, diabetes, dyslipidemia, smoking and alcoholism.

Material: Cross – Sectional observational type of study. Study Subject: Study of 100 cases of cerebrovascular stroke correlating clinical, radiological presentation with radiological study. Sample Size:100: Patients

Observation: In the present study, types of the stroke were divided as Ischemic Stroke and Hemorrhagic Stroke with 80 (80%) and 20 (20%) respectively, out of 100 patients of stroke 54 (54%) were from older age group of 51-80 years and 46 (46%) patients were from younger and adult age group of 18-50 years. Sixty patients were predicted high risk factors were Antepartum eclampsia (48.45 %) followed by poverty (20.27%) followed by posen hypertension and DM were nonmodifiable risk factors for stroke in young. Every attempt should be made to identify risk factors, with the available resource, to limit the morbidity and mortality and achieve better prognosis.

**Study of 100 Cases of Cerebrovascular Stroke Correlating Clinical Presentation with Radiological Study**

Dharam Singh Meena, CL Naval, PD Meena, Aradhana Singh, Yogesh

SMS Medical College & Hospital, Jaipur

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**Serum Glutamic Oxaloacetic Transaminase - Predictor in Detection of Early Neurological Deterioration in Acute Ischemic Stroke**

Sudshih Gupta, Rajesh Chetwal, Amit Kumar, Priyank Rastogi, Saurabh Gupta, Pradeep Tomar

Epidemiology is a strengthening policy of the health system to lower the incidence of communicable disease resulting in 2nd leading cause of death and 2nd leading cause of disability worldwide. Dyslipidemia, smoking and alcoholism are the major risk factors of stroke. Dyslipidemia and diabetes are also the major risk predictors of outcome in patients with acute ischemic stroke. In India, stroke is a major public health problem, and understanding of the pathogenesis of stroke is necessary for the development of better treatment strategies for stroke.

**A Study of Lipid Profile in Non-Ischemic Stroke in Young Patients**

Sangappa AN, Basavaraj R patil, Satish B Kinagi, Basavaraj Belli

Mahadevappa Rampure Medical College, Kalaburagi

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**Posterior reversible encephalopathy syndrome (PRES) is mostly benign condition. It’s clinicoradiological presentation, early recognition and management helps in speedy recovery and less morbidity in high risk patients.**

**Study to Class Clinicoradiological Profile and Outcome of Posterior Reversible Encephalopathy Syndrome (PRES)**

Saransh Barai, Archana Aher

GMCH, Nashik

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**Thrombocytopenia as a Prognostic Marker in Patients with Acute Encephalitis at a Tertiary Care Centre in Northern India**

Akriti Bhardwaj, V Atam, KK Sawlani, D Himanshu, R Verma, SP Verma

King George’s Medical University, Lucknow

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**Serum Glutamic Oxaloacetic Transaminase - Predictor in Detection of Early Neurological Deterioration in Acute Ischemic Stroke**

Sudshih Gupta, Rajesh Chetwal, Amit Kumar, Priyank Rastogi, Saurabh Gupta, Pradeep Tomar

ESI-PGIMER and Model Hospital, Basaidarapur, New Delhi

In 20-40 percent of stroke patients, symptoms evolve during initial hours, resulting in rise of mortality. Early Neurological Deterioration (END) is now an emerging entity. In acute ischemic stroke, it results in increased morbidity and functional disability. The incidence rates of early neurological deterioration is 13-17 percent of ischemic stroke. Ischemic stroke is associated with raised blood glucose level in diabetic patients. Serum glutamic oxaloacetic transaminase (SGOT) is the enzyme that metabolise glutamate and facilitates in lowering its level, but its significance is poorly understood. So, SGOT has been studied as predictor in detection of early neurological deterioration of acute ischemic stroke.

**Observation:** Mean age of patients was 34.06±18.76 (range 18-83 years). Most of the patients were male (54.1%). Mean GCS at admission was 9.41±1.90. Acute viral encephalitis was the most common etiology (n=24; 25.4%) and Japanese encephalitis virus (n=12; 12.2%) were the most common underlying etiologies. A total of 74 (75.5%) patients had thrombocytopenia. Mild, moderate and severe thrombocytopenia was seen in 34 (34.7%), 40 (40.4%) and 10 (10.2%) cases respectively. Smoking and alcoholism had significant higher in Dengue and Scrub as compared to other etiologies. Thrombocytopenia and its severity showed significant correlation with GCS and higher mRS scores indicating a poor outcome.

**Conclusion:** Thrombocytopenia is associated with a poor clinical status and adverse outcomes in patients with encephalitis of all causes.
A Study of Serum Homocysteine Level in Ischaemic Stroke  
Vaishali Wasnik, Manoj Parashar  
Navodaya Medical College, Raichur  
Observation: Stroke remains the second leading cause of death worldwide after ischaemic heart disease. Stroke occurs mainly due to infarction which accounts for 85% of etiological factors and 15% due to hemorrhage. Hyperhomocysteinemia is associated with premature atherosclerosis and vascular events and it is an important risk factor of stroke and other vascular accidents.  
Material: Case will be selected from patients admitted to medical wards in Navodaya Medical College, Raichur. Duration based study with a minimum of 30 cases for a period of one year from August 2019. In all cases admitted with symptoms suggestive of stroke careful methodical examination of central nervous system carried out and all physical signs in order. In all cases with the help of close relatives the preceding symptoms and risk factors were enquired all patients were subjected to CT scan brain, CRP, PPR, lipid profile and serum homocysteine levels were done.  
Conclusion: In our study we observed that the serum homocysteine levels were elevated in ischemic stroke significantly. The serum homocysteine levels in older age group >65 years were higher in non diabetics (29.57 micromole/litre) than diabetics (20.75 micromole/litre) and difference was statistically significant (P <0.001). Mean serum Homocysteine levels were higher in age group <65 years (28.73 micromole/litre) than patient age >65 years (20.50 micromole/litre) and the other two parameters did not show any positive correlation.  
Clinical Profile of Central Nervous System Involvement in Patients with Rhino Orbital Cerebral Mucormycosis  
Sushma Yadav, Nagaraja B5, Someshwar AR  
Bangalore Medical College, Kalburgi  
Mucormycosis is life threatening fungal infection that occurs in immunocompromised patients. Patients at risk are those with poorly controlled diabetes mellitus, immunosuppressed patients such as those undergoing treatment for hematological cancer, recipients of solid organ and hematopoietic stem cell transplantation. COVID 19 infection is known to produce a state of hyper inflammation, release of cytokines and dysregulation of immune dysfunction is associated with development of opportunistic infections, of which Mucormycosis is on the rise. Affected tissues include the soft tissues and the orbit and brain or by direct hematological spread which is called as Rhino-orbito-cerebral Mucormycosis (ROCM).  
Material: This is a cross sectional study conducted on 30 patients diagnosed with COVID 19 associated mucormycosis admitted to the hospitals attached to BMCRI between May 2021 to August 2021. All the ROCM cases with CNS involvement were included. The relevant demographic data, clinical presentation, neurologic manifestations, underlying co morbidity, medical treatments, and surgical interventions were recorded and analyzed.  
Conclusion: A total of 30 patients were included mean age 49.3 years with 38 males and 12 females. Most common comorbidity was diabetes (94%) followed by hypertension (26%). Most common symptom was headache (86%) followed by facial swelling (68%), facial pain (66%) 40% Patients had CNS symptom among which most common was hemiparesis. EOM restriction (70%) and abnormal vision (70%) being most common examination finding. Most common sinus being involved was maxillary 94% followed by ethmoid sinus 92%. Neurological manifestation included acute infarct (56%), Cavemous sinus thrombosis (28%), ICA occlusion (10%) abscess (34%), 3 patients had dual fungal infection. 26% patient underwent craniotomy, 6% craniotomy with Denkers procedure, 30% underwent maxileftectomy. Among the mortality group, average duration of diabetes was 11.5 years, average steroid use of 9.53 days, CRP was 104 mg/l, D Dimer 755 mg/dl, as compared to 5.98 years, 3 days, 38.9 mg/ml, 419 mg/dl, respectively among recovered patients. Most patient were left with morbidity like vision loss and facial disfigurement (40%) being most common while hemiparesis in (14%) patients.  
Conclusion: Diabetes mellitus being the main predisposing factor for ROCM. Delayed diagnosis or inappropriate treatment may result in massive tissue destruction especially in cranial base and/or vault and orbit. Despite advances in imaging and the availability of novel drugs, cerebral mucormycosis continues to be associated with high rates of death and disability.  
A Study on the Role of Serum Calcium, Serum Albumin and Serum Uric Acid as Markers of Initial Neurological Severity and Short Term Outcome Indicators in Acute Ischemic Stroke  
Pavan Kumar BC, Vijay G Somannavar  
KLEU JNMC , Belagavi  
Observation: Stroke is defined as ‘the rapid development of clinical signs and symptoms of a focal neurological deficit lasting for more than 24 hours or leading to death with no apparent cause other than vascular origin’. Serum Calcium has an important role in signal transduction pathways and may influence the severity of stroke during initial period, serum calcium affects acute phase reaction by reducing neuroprotective action prejudices the recovery. Whereas Serum Uric acid acts as a marker of tissue infarction; indicating poor prognosis of ischemic stroke. This study was conducted using these three lab parameters to assess the severity & short term prognosis of acute ischemic stroke.  
Material: This is a one year Observational Cross section study conducted in period of 65 patients aged above 18 years, presenting with Acute Ischemic Stroke within 24 hours of onset. Patients with Haemorrhagic stroke, chronic liver & renal diseases were excluded. National Institute of Health Stroke Scale (NIHSS) severity score was calculated at admission and then repeated on 48 hours and 72 hours. Serum Calcium, Serum Albumin and Serum Uric acid were measured at admission and at 48 hours and 72 hours of onset. Patients with Haemorrhagic stroke, chronic liver & renal diseases were excluded. In all cases stroke was found to have SGOT > 40 IU/ml (P < 0.05). Higher level of SGOT (>40 IU/ml) had association with NIHSS at admission (P < 0.07), at 48 hours (P < 0.03) and 72 hours (P < 0.03) with ratio of 9.66,10.45,11.45 respectively. Positive correlation had been there between SGOT with NIHSS at admission, at 48 hours and 72 hours.  
Conclusion: The increase in SGOT levels during stroke is associated with neurological deterioration. Hence, SGOT may be utilised as predictor in detection of END in acute ischemic stroke as high values of SGOT positively correlated with NIHSS at admission, at 48 hours and 72 hours.  
Role of Serum Homocysteine, C-Reactive Protein (CRP), Uric Acid & Pro-Brain Natriuretic Peptide (Pro-BNP) in Predicting the Functional Outcome in Patients with Ischemic Stroke: A Prospective Observational Study from North India  
Himanshu Chauman, Virendra Atam, KK Sawlani, D Himanshu Reddy  
King George's Medical University, Lucknow  
Ischemic Stroke is an acute and rapidly progressing neurodegenerative disease with the highest cause of death (5.5 million) after ischemic heart disease. Numerous biomarkers have been identified and studied to detect acute ischemic stroke, none of the biomarkers are available for prognostication in such cases. In this study, we measured the levels of four widely available biomarkers in the serum of acute ischemic stroke patients and evaluated their association with the functional outcome at discharge.  
Material: This was a prospective observational study conducted on 81 patients of acute ischemic stroke after obtaining informed consent. A detailed history was taken and clinical examination was done. Serum levels of homocysteine, uric acid, C reactive protein (CRP), and Pro BNP were higher than normal values (22.7 ± 12.5 micromole/litre), (45.7%), (3.6%) respectively. The average duration of hospital stay was 13.3 ± 7.5 days. 22 cases expired during the hospital stay. Mean serum levels of homocysteine, CRP, and Pro-BNP were higher than normal values (22.7 ± 12.5 micromole/litre), (45.7%), (3.6%) respectively. The average duration of hospital stay was 13.3 ± 7.5 days. 22 cases expired during the hospital stay. Mean serum levels of homocysteine, uric acid, C reactive protein (CRP), and Pro-BNP were higher than normal values (22.7 ± 12.5 micromole/litre), (45.7%), (3.6%) respectively. The average duration of hospital stay was 13.3 ± 7.5 days. 22 cases expired during the hospital stay. Mean serum levels of homocysteine, uric acid, C reactive protein (CRP), and Pro-BNP were higher than normal values (22.7 ± 12.5 micromole/litre), (45.7%), (3.6%) respectively. The average duration of hospital stay was 13.3 ± 7.5 days. 22 cases expired during the hospital stay. Mean serum levels of homocysteine, uric acid, C reactive protein (CRP), and Pro-BNP were higher than normal values (22.7 ± 12.5 micromole/litre), (45.7%), (3.6%) respectively. The average duration of hospital stay was 13.3 ± 7.5 days. 22 cases expired during the hospital stay.  
Conclusion: Higher serum levels of homocysteine, CRP, and Pro-BNP are associated with a higher risk of acute ischemic stroke. Homocysteine level at admission can predict the poor outcome at discharge in patients of acute ischemic stroke. Pro-BNP levels can be used as a predictor of poor outcomes in aortic stroke.  
Efficacy and Safety of Edaravone in Amyotrophic Lateral Sclerosis Patients in Indian Population  
Sunny Tomar, Salil Gupta, Anuj Singal, Rahul Soni  
AVRPA, Delhi  
Amyotrophic lateral sclerosis (ALS), is a progressive fatal neurodegenerative disease. It leads to scarring or atrophy of muscles. Motor neuron death in animal models is presently unknown. Oxidative stress caused by free radicals might be an essential factor in the progression of the disease. Edaravone, a free-radical scavenger, has been shown to inhibit motor neuron death in animal models by reducing oxidative stress & it has shown efficacy in a small subset of people with ALS. This study was planned to see the efficacy and safety of Edaravone in Indian population.  
Material: This study was a single centric observational study, on use of Edaravone in ALS patients. Who were suffering from ALS has been treated. The study included all the probable or definite ALS as per the El Escorial Criterias 2014. Total 30 patients were included. All patients had their Revised ALSFRS-R recorded & SFEMG was done at the time of diagnosis then after 6 months of completion of treatment protocol. They were given Edaravone as per the defined treatment protocol. The treatment protocol consists of 24 weeks (6 cycles). In cycle 1, the study drug was administered for 14 consecutive days followed by a 2 week drug-free period. In cycle 2 and thereafter, the study drug was administered for first 10 days, followed by 18 days drug-free period. The primary efficacy endpoint was change in Revised ALSFRS-R score. On the other hand, the study drug is expected to inhibit motor neuron death in animal models by reducing oxidative stress & it has shown efficacy in a small subset of people with ALS. This study was planned to see the efficacy and safety of Edaravone in Indian population.
Rheumatology

Study Neutrophil to Lymphocyte Ratio and Platelet to Lymphocyte Ratio in Patient with Rheumatoid Arthritis

Tarun Khan, CL Nawal, PD Meena, Aradhana Singh

SMS Hospital and Medical College, Jaipur, Rajasthan

Rheumatoid arthritis (RA) is a chronic and systemic autoimmune disease with synovial joint inflammation, that culminates in progressive damage of the joint, especially with persistent inflammation. The neutrophils, lymphocytes, and platelets which are an important part of the immune system have a role in the control of inflammation, while also adding to inflammation. Whether they have any significant role in inflammation and immune-modulation postulated by the presence of cross talk between markers of coagulation and inflammatory system.

Material: This was a Hospital-based, cross-sectional and comparative study. The study was conducted at SMS Medical College and Hospital (Department of Medicine), Jaipur, Rajasthan, India.

Observation: Most of the RA Cases were females (63.3%), while only 11 cases (36.7%) were males. Gender matched controls were selected, thus there were more females (60) compared to controls (52.8 ± 7.23%).

Conclusion: The mean P : L ratio was higher among RA cases with active disease (3.31 ± 1.29) as compared to RA cases with remission (2.15 ± 0.74). This difference in N : L ratio concerning disease activity among RA cases were found to be statistically significant (p < 0.007).

A Study of Pulmonary Function Tests in Patients with Rheumatoid Arthritis and its Association with Disease Activity

Aswathy Malade, Ramnaranjan Yadav, Ajay Mathur, Laxmikant Goyal

SMS Medical College and Hospital, Hubli

Rheumatoid arthritis is a chronic inflammatory disease of unknown etiology marked by a symmetrical peripheral polyarthritis. Because it is a systemic disease RA may result in involvement of respiratory membrane. DLCO along with spirometry can be tried to assess early involvement of respiratory membrane.

Observation: Out of 20 patients of rheumatoid arthritis studied, 11 had amenorrhea of chronic disease and 27.5% had iron deficiency anaemia, 3% had eosinophilia. The disease activity was measured using DAS 28 CRP and HAQD. The disease activity had a negative correlation with the disease level and disease activity whereas a positive correlation was observed between platelet count and disease activity.

Conclusion: In our study it was observed that Hb is significantly lower in females as compared to males whereas platelet count and MPV are significantly higher with high disease activity compared to patients with low to moderate disease activity. So, following Hb, MPV and MPV, we can predict disease activity in RA patients which can guide us for proper and aggressive management to prevent further disease progression.

Type 1 Renal Tubular Acidosis with Hypokalemic Quadriaparesis in Sjogren Syndrome

Keshav Sharda, Keshav Sharda, Puneet Saxena, Aradhana Sharma, Vipul Swami

Sawar Singh Medical College and Hospital, Jaipur, Rajasthan

Sjogren syndrome is an autoimmune disease characterised by lymphocytic infiltration and inflammation of the exocrine glands resulting in decreased secretion of involved glands which manifests mostly as dry eye and dry mouth. The prevalence of the disease is reported to be about 10.3 per 10,000 population. It is more common in females. It was observed in 85% of Sjogren syndrome manifestations are seen in up to 1/3rd of the cases. Renal involvement is seen in 4.9% of patients with Sjogren syndrome.

Material: Here we present three cases of Sjogren syndrome who presented to our hospital with hypokalemic quadriaparesis.

Observation: On evaluation all three of the patients were tested to have renal tubular acidosis type 1. None of these patients had any symptom of Sjogren syndrome before the onset of quadriaparesis. All of these patients had acute onset progressive areflexic quadriaparesis with involvement of face muscles and drooping of eyelids without sensory or bladder bowel involvement. One of these patients had papilledema and muscle paralysis suggesting involvement of optic nerve. The other two patients had papilledema and muscle paralysis suggestive of involvement of cranial nerves. One of these patients had papilledema and muscle paralysis suggestive of involvement of cranial nerves.

Conclusion: Though a rare manifestation of the disease if can be the presenting symptom. Work up for RTA (ABC, urine electrolytes, urine PH and osmolality etc) in patients with hypokalemic paresis can help establish the etiological diagnosis(ANA, anti-SSA,anti-SSB) and help prevent future relapses of the disease.

Study of Cardiovascular Involvement in Rheumatoid Arthritis and it’s Correlation with Severity of Disease

Sachin M, La Gauri

SP Medical College, Bikaner

Rheumatoid arthritis is a chronic systemic disease of unknown etiology characterised by a symmetrical symmetric involvement of peripheral joints with symmetric distribution. Most common cause of death in RA is cardiovascular disease and not RA itself. The aim and objective of the study was to study the prevalence of cardiovascular involvement in the patients of RA and correlate the cardiovascular involvement with duration and severity of disease.

Material: The present study was conducted in the Rheumatology Division of department of medicine Sardar Patel medical college Bikaner. It’s a cross sectional study done on 100 consecutive patients, diagnosed with RA according to ACR-EULAR classification criteria for RA 2010. Patients with history of smoking, renal failure,
Rheumatoid arthritis (RA) is a chronic, symmetric, systemic inflammatory polyarthritis of unknown etiology. It primarily affects small diarthrodial joints of hand and has higher prevalence in women just like any other autoimmune disease. Metabolic Syndrome (MS) is a constellation of cardiovascular risk factors with insulin resistance as a core manifestation. Dyslipidemia, central obesity and hypertension form the other manifestations. Both the disorders share the common pathophysiology which centres around chronic systemic inflammation. High plasma levels or TNF and interleukins are found in both. The present work is a modest attempt to study the prevalence of metabolic syndrome among patients with rheumatoid arthritis and its correlation with disease activity.

Material: The study was carried out in a total of 100 rheumatoid arthritis patients enrolled in the study and compared with 100 age and sex matched non rheumatoid arthritis controls. Medical College and attached group of hospitals, Udaipur. It was an observational case control study done over a period of 1 year.

Assessment of Atherosclerosis in SLE Patients by Measuring Carotid Intima Media Thickness: A Cross Sectional Study
Rishav Mukherjee, Raja Bhattacharya, Subhendu Bikash Naya, Soumya Sarathi Mondal, Lamsaka Lyngdoh
Rabindra Nath Tagore Medical College, Udaipur

Clinical & Demographic Profile and Prevalence of Metabolic Syndrome Among Patients with Rheumatoid Arthritis and its Correlation with Disease Activity
Aniruddha P Burli, Mahesh Dave
Rabindra Nath Tagore Medical College, Udaipur

Catastrophic Anti-Phospholipid Syndrome in Systemic Lupus Erythematosus: A Tsunami in the Ocean
T Dorji, A Hegde, V Asturkar, S Yangtse, K Bhunu
Armed Forces Medical College, Pune, Maharashtra; “Command Hospital (Southern Command), Pune, Maharashtra

Antiphospholipid antibody syndrome is an autoimmune disorder characterized by arterial or venous thrombosis associated with the presence of antiphospholipid antibodies or other thrombosis risk factors in the absence of another underlying cause. Antiphospholipid antinuclear antibodies are found in 2-5% of the general population, and have a prevalence of 1-3% in healthy individuals. The presence of these antibodies is associated with an increased risk of spontaneous abortion, fetal death, and premature delivery. The condition is also associated with an increased risk of stroke, transient ischemic attack, and other vascular events. The diagnosis of antiphospholipid syndrome is based on the detection of specific antibodies, such as anti-cardiolipin and anti-β2-glycoprotein I antibodies. The presence of these antibodies is typically confirmed by a confirmatory test, such as a an automated plaque formation.

Conclusion: There exists a complex interplay between rheumatoid arthritis and metabolic syndrome with chronic systemic inflammation playing a major role. The prevalence of MS and associated artherosclerotic cardiovascular risk is increased among RA patients. Further research in this arena is required to determine the morbidity and mortality among RA patients.

Screening Programme for Detection of Chronic Kidney Disease Patients crash-landing and Initiating Dialysis……Is it Time for Mandatory Screening Programme for Detection of Chronic Kidney Disease
Ravi Kumar Meena, Vartul Gupta, Vinay Malhotra, Dhananjay Agrawal, Panak Biwanel, Sanjeev Sharma
SMS Medical College, Jaipur

The present study was undertaken to study clinical, biochemical and echocardiographic characteristics of patients with Chronic Kidney Disease crash-landing and initiating hemodialysis at first presentation in our centre. Material: Ours was a cross-sectional study of one hundred and seventy patients with chronic kidney disease starting hemodialysis. Data collection and examination were done. Apart from routine biochemical tests and CKD-MBD profile, all patient underwent ultrasonography, and echocardiography. Efforts were made to delineate etiology in each patient. Observation: Out of 170 patients 64% were males, 36% were females. Mean age at presentation in our study was 41.27 (±16.47) yrs. Chronic glomerulonephritis was the most common etiology accounting for 54% of cases followed by Diabetes (20%). Mean eGFR at presentation was 41.27 (±16.47) ml/min/1.73 m². Hypocalcemia was present in 87.1%, hyperparathyroidism in 84.2% and elevated PTH levels in 98% with mean PTH levels being 588.07±309.38 ng/ml. LVH on echocardiogram was present in 58.4% of patient with diastolic dysfunction being reported in 31.8% of patients. DCM was present in 28% of patients and 21% of patients had left ventricular hypertrophy. Observation: Chronic kidney disease patients referred late have clinical and lab characteristics which are worse as compared to routine CKD patients. This calls for a...
Role of Rituximab in Patients with Resistant Nephrotic Syndrome

Seetaram Singh, Dhananjai Agarwal, Rakesh Gupta, Vinay Malhotra, Shashank Bhardwaj

SNS Medical College, Jaipur

Resistant nephrotic syndrome is a group of disorders with diverse histological findings, which are by definition resistant to corticosteroids given in adequate dose for adequate duration. However, response to therapy as well. In many patients progression to end-stage renal disease is the ultimate outcome. The role of B cells has not been fully explained in man, agents that specifically interfere with their role are under investigation toward selective therapy. We studied short term and long term effects of rituximab in patients with resistant primary nephrotic syndrome.

Material: Study was conducted at SNS-medical college and Hospital Jaipur, four doses of rituximab were given weekly, in fixed dose of 500 mg per dose and proteinuria was evaluated before start of therapy and at 3 months, 6 months and 12 months of therapy. Patients with resistant primary nephrotic syndrome were included. Results: 16 patients with persistent nephrotic range proteinuria and showed that rituximab promoted sustained response. Out of 10 patients no one had relapse of Nephrotic syndrome at 12 month of therapy. Renal function remain normal in all patients over 12 months followup.

Conclusion: This prospective, observational study evaluated 16 patients over 12 month outcome of iMN and 7 FSGS patients, with persistent nephrotic range proteinuria and showed that rituximab promoted sustained remission in proteinuria in resistant nephrotic syndrome with normal renal function.

Deceased Donor Renal Transplantation: 6 Year Experience from a Tertiary Care Center in North India

S Bhaward, D Agarwal, V Malhotra, R Gupta, S Singh

SNS Medical College and Hospital, New Delhi

The incident of End stage renal disease (ESRD) is rising rapidly worldwide. Kidney transplantation is the best modality of treatment, offering a better quality of life and mortality benefit, as compared to conservative management. Many patients have a live renal transplant donor, for rest, a decreased donor renal transplant is the only alternative. Deceased donor renal transplantation (DDRT) patients are often at risk, however, associated with better quality of life. The incidence of DDRT is rising. There are limited data availability in DDRT. There are many benefits of DDRT. The study included patients with diverse histological findings, which are by definition resistant to corticosteroids given in adequate dose for adequate duration. However, response to therapy as well. In many patients progression to end-stage renal disease is the ultimate outcome. The role of B cells has not been fully explained in man, agents that specifically interfere with their role are under investigation toward selective therapy. We studied short term and long term effects of rituximab in patients with resistant primary nephrotic syndrome.

Material: The study assessed COVID-19 positive adult patients admitted from 1/19/2020 to 3/31/2020. Data was collected by accessing electronic medical records of patients. Proteinuria and hematuria were assessed by urine dipstick. Lab data including S. creatinine at admission was assessed. S. creatinine at a mean duration of 7 days, 14 days during hospitalization and on follow-up at a mean duration of 45±15 days after discharge was recorded. Observation: A total of 1561 patients admitted during the study period were screened. The exclusion criteria included patients admitted with COVID-19 and patients with COVID-19 infection especially in patients with severe illness. Presence of AKI, proteinuria and/or hematuria was more likely to have severe COVID-19 illness. 47.5% patients with AKI, 45.9 % with proteinuria and 34.4 % with hematuria had severe COVID-19 illness. The recovery of AKI at a mean duration of 45±15 days post discharge was 83.63 %.

Conclusion: Renal involvement is not uncommon in patients with COVID-19 infection especially in patients with severe illness. Presence of AKI, proteinuria and/or hematuria is associated with increased mortality among patients hospitalized with COVID-19 infection.

Prevalence of Pulmonary Hypertension in Chronic Kidney Disease

Neha Kumari, RK Malik, S Suchi, RS Sahu, Vidypati

Rajendra Institute of Medical Sciences, Ranchi

Pulmonary hypertension is a common comorbidity in patients with chronic kidney disease and end-stage renal disease (CKD). The presence of pulmonary hypertension is associated with increased risk of hospitalization and mortality in patients with CKD. The presence of pulmonary hypertension in this population is not only important to identify the patients at risk of having pulmonary hypertension but also to identify the patients who may not reverse the high mortality associated with established pulmonary hypertension.

Material: Place of study- Rajendra Institute of Medical Sciences, Ranchi. Design of study- Observational and prospective single centered study. Duration of study-18 months. Sample size-100 CKD patients admitted to department of medicine, RMS, Ranchi. Study population-100 CKD patients meeting our inclusion criteria, admitted in the department of medicine, Rajendra Institute of Medical Sciences, Ranchi, between 1st January 2020 and 30th June 2021.

Inclusion Criteria: Renal function was determined by estimated glomerular filtration rate. Only patients with stage 5 worse CKD were included.

Exclusion Criteria: 1. Those patients having stage 0 or less kidney disease were excluded.

Prevalence of Pulmonary Hypertension in Chronic Kidney Disease

Neha Kumari, RK Malik, S Suchi, RS Sahu, Vidypati

Rajendra Institute of Medical Sciences, Ranchi

Pulmonary hypertension is a cardiopulmonary disorder that affects the pulmonary vascular bed. It is characterised by an elevation of mean pulmonary artery pressure of >25 mmHg at rest or >30 mmHg during exertion. It is a progressive disease that leads to right heart failure and potentially to death. Pulmonary hypertension is a common complication of chronic kidney disease (CKD). The presence of pulmonary hypertension is associated with increased risk of hospitalization and mortality in patients with CKD. The prevalence of pulmonary hypertension in this population is not only important to identify the patients at risk of having pulmonary hypertension but also to identify the patients who may not reverse the high mortality associated with established pulmonary hypertension.

Material: Place of study- Rajendra Institute of Medical Sciences, Ranchi. Design of study- Observational and prospective single centered study. Duration of study-18 months. Sample size-100 CKD patients admitted to department of medicine, RMS, Ranchi. Study population-100 CKD patients meeting our inclusion criteria, admitted in the department of medicine, Rajendra Institute of Medical Sciences, Ranchi, between 1st January 2020 and 30th June 2021.

Inclusion Criteria: Renal function was determined by estimated glomerular filtration rate. Only patients with stage 5 worse CKD were included.

Exclusion Criteria: 1. Those patients having stage 0 or less kidney disease were excluded.

2. Patients with congenital heart disease, chronic thromboembolic disease, acute heart failure, previous lung disease or cardiac transplantation were excluded. Data was collected by oral questionnaire, relevant investigations and by doing 2D- ECHO and data was analyzed by using IBM SPSS Statistics software.

Observation: Prevalence of pulmonary hypertension in the study group was 16%. Prevalence of pulmonary hypertension was more in male than female (16.4 % vs. 9.6 %) and the difference in prevalence of pulmonary hypertension in different stages of CKD was statistically significant (p-value=0.008). Prevalence of pulmonary hypertension was
more in patients on hemodialysis (27.78%) compared to those on maintenance hemodialysis (9.37%). Pulmonary hyperviscosity was present in 13.85% males and 20% of females, there was no statistically significant difference (p value=0.428). No statistically significant difference was found in prevalence of pulmonary hyperviscosity between diabetic and non-diabetic patients and hypertensive and normotensive patients.

**Conclusion:** Prevalence of pulmonary hyperviscosity was more in diabetic CKD patients and patients on hemodialysis. There was positive correlation between high serum creatinine, high serum phosphorus, lower hemoglobin, lower serum calcium and pulmonary hyperviscosity in CKD patients. There was no significant difference in prevalence of pulmonary hyperviscosity in male and female patients.

**Serum Cytokines Expression and Vitamine D Levels among Diabetics with and without Nephropathy**

Siddanth Doddamane, Lakitha N, Sinath KM

**JSS Medical College, JSSAHER, Mysore**

Diabetic nephropathy (DN) is one of the significant causes of kidney failure. Serum Cytokines were significantly increased across early stages of CKD. Cytokines play a vital role in the pathogenesis and progression of CKD. DN is considered as an inflammatory disease. Vitamin D is a reno-protective fat soluble agent, whose deficiency is associated with the levels of inflammatory molecules and progression of DN. A part of this study was to analyse the expression of cytokines in diabetic patients with and without nephropathy and correlate with vitamin D levels.

**Material:** Clinical details and serum samples from 84 diabetic patients with and without nephropathy and patients with nephropathy were collected. The separated serum was used to measure Vitamin D and Cytokines; IL-1, IL-6, TNF-α. Fasting insulin levels were measured and HOMA-IR was calculated.

**Observation:** Diabetics with & without nephropathy had hypovitaminosis D. Severe hypovitaminosis D (≤10 ng/ml) in diabetics without nephropathy was significantly more as compared to diabetics without nephropathy (19%). The serum IL-6 levels were high (p<0.001) and IL-1 (p<0.001) and TNF-α (p<0.001) were low in diabetic patients with nephropathy.

**Conclusion:** Diabetics with and without nephropathy have low vitamin D. Severe hypovitaminosis D was observed in diabetic nephropathy subjects, when compared to diabetics. IL-6 is significantly increased in diabetic nephropathy. A weak negative correlation of IL-1 and IL-6 was observed with vitamin D levels in diabetics with and without nephropathy.

**Study of Serum Cystatin C and Serum Cytokine Differentiation in Chronic Nephropathy and Diabetic Nephropathy Patients**

Vikas Kumar Pandey, Mani, Prajat Mazumdar, Vidyaapati, Manohar Lal Prasad

**Rajendra Institute of Medical Sciences, Ranchi**

There is lack of consistent surrogate markers of kidney function, especially in the early stages of CKD. Cystatin C remains within normal levels until a significant reduction in renal function has occurred. Cystatin C appears to be unaffected by muscle mass, diet, or gender. Its clearance is only by glomerular filtration. The plasma concentration is not influenced by inflammation or liver disease. It is not affected by optical interferences.

Considering these benefits, it is more useful when trying to detect mild to moderate impairment of kidney function.

**Material:** An observational, analytical study was conducted on a total of 100 patients. The participants were divided into 2 groups based on eGFR.

**Observation:** 67% patients had raised Cystatin C as compared to only 12.5% who had raised Creatinine. In our study, we found that Serum Cystatin C (r=0.85, p<0.001) was better than Cystatin C (r=0.55, p=0.001) in all stages of CKD. However, in patients with eGFR ≤60 ml/min/m², Cystatin C (r=0.81) was a more useful marker to detect renal dysfunction at an early stage as compared to Serum Creatinine (r =0.48, p<0.001). Overall, the AUC (Area Under Curve) for Serum Cystatin C is better than Cystatin C. However, in patients with eGFR<60 ml/min/1.73m², AUC for cystatin C is more. Thus, Cystatin C is considered as a better marker than Serum Cystatin C to detect early renal dysfunction.

**Conclusion:** We found out that both serum creatinine and serum cystatin C were significantly increased across CKD groups but cystatin C is a better predictor of CKD than creatinine in stages with eGFR<60 ml/min/1.73m² as serum cystatin C was found to be raised contrary to serum creatinine which was within normal limits, although in stages with eGFR≥60 ml/min/1.73m² there was no significant difference between the two. We found out that normal serum creatinine levels during the stage of kidney disease progression is not needed necessarily for a normal mean renal function. Cystatin C should be encouraged as a screening tool for early renal impairment in the patient with risk of developing CKD, especially in long-standing hypertensive and diabetic patients as an adjunct to creatinine estimation. It should also be included in the management protocol for these patients.

**A Study on the Levels of Folic Acid, Vitamin B12 and Plasma Homocysteine in Patients with Chronic Kidney Disease**

Aditya Anurag

**Rajendra Institute of Medical Sciences, Ranchi, Garhwa**

Chronic kidney disease (CKD) is defined as abnormalities of kidney structure or function, present for three months, with implications for health. Therapeutic interventions at earlier stages can prevent or ameliorate most of the complications of decreased kidney function, as well as slow the progression to kidney failure. Coronary artery disease (CAD) is the most common cause of death in CKD patients. Low serum folic acid, low serum vitamin B12 and high serum homocysteine are commonly associated with CKD.

**Material:** This work was a single-centre, cross-sectional, descriptive study which included 100 patients who met the inclusion criteria. Diagnosis of vitamin B12, serum folic acid and homocysteine levels in each patient was measured and their association with the renal function and cardiovascular disease was assessed.

**Observation:** A total of 100 patients (M:F=68:32) of chronic kidney disease were analyzed. Mean age of the study population was 51.55±16.23 years. On applying Pearson correlation between folic acid and eGFR; a linear correlation was found (p=0.001, correlation= -0.331). Similarly, an inverse correlation was found between vitamin B12 and eGFR. (p=0.001, correlation=-0.331). Similarly, an inverse correlation was found between homocysteine and eGFR levels. It was observed that 15% patients died during the course of the study. The mean folic acid among patients who died and patients who survived was 3.99±4.04ng/ml and 10.72±7.58ng/ml, respectively. The difference was statistically significant. The mean eGFR among those who died (mean=4.84±3.22ml/min/1.73m²) was significantly lower (p<0.001) than the patients who survived during the study (mean=16.22±12.66 ml/min/1.73m²).

**Conclusion:** Higher levels of homocysteine were more common in CKD patients as the disease progressed. It was also associated with poorer outcome (i.e. mortality risk). Advanced CKD was associated with increased mortality and lower folate levels. However, no association between serum vitamin B12 and renal/mortality outcome could be established in this study.

**Hemodialysis and effect of corrective measures to prevent hypoglycemia**

V Katla, R Khyalappa

**DY Patil Hospital, Kolhapur**

Type 2 diabetes mellitus is the leading cause of end stage renal disease. Chronic kidney disease (CKD) especially end stage renal disease (ESRD) usually require renal replacement therapy and are on maintenance dialysis. Patients of ESRD commonly experience hypoglycemia during hemodialysis and these hypoglycemic episodes are more commonly seen in diabetic patients. The number of hypoglycemic episodes increase mortality and morbidity in CKD patients. Hence it is important to prevent these hypoglycemic episodes during dialysis in CKD patients with diabetes.

**Objectives:** To study occurrence of hypoglycemia in patients of diabetic chronic kidney disease and effect of corrective measures to prevent hypoglycemia.

**Material:** In this study we measured Random blood sugar and dialysate sugar level before dialysis and during dialysis. This both sugar levels are measured at 30 min, 90 min, 120 min and 150 min of hemodialysis by GCD-POD method. The patients who had hypoglycemia during dialysis were provided with intradialytic carbohydrate rich snacks and insulin dose reduced by 0.2-0.3 units/kg for next setting of hemodialysis.

**Observation:** A total of 200 diabetic CKD patients were included in the study. Patients of ESRD patients developed hypoglycemia in the first setting, out of them 48 (51.61%) patients were not on any medication, 33(35.48%) people on insulin, 12 (12% )patients on OHA. Mean blood sugar levels who did not have hypoglycemia in the first setting was significantly low as compared to patients who did not have hypoglycemia (p value < 0.05). After corrective measures, in the second setting (n=93) of hemodialysis only 14 (15%) people showed hypoglycemia out of them 07 (50%) people were not on any medication, 5 (36%) on insulin, 2 (14%) on OHA. Mean blood sugar levels of patients who had hypoglycemia in the second setting was low as compared to those without hypoglycemia but the difference was not significant. (p value =0.05). No deaths reported during study.

**Conclusion:** The occurrence of hypoglycemia in diabetic CKD patients during hemodialysis is significant. The corrective measures are effective in preventing hypoglycemia during hemodialysis.

3. Insulin therapy and oral hypoglycemic agents should therefore be used with caution in patients of hemodialysis.

**Correlation of fibroblast growth factor 23 and malnutrition in chronic kidney disease patients on maintenance hemodialysis**

Rashmi Chaudhary, Rajeev Manocha, Adhip Arora

**VNM and Safdarjang Hospital, Delhi**

Chronic Kidney Disease (CKD) is a major health problem that causes death and disability worldwide. Cholecalciferol (vitamin D3), 1,25-Dihydroxyvitamin D3 is a hormone, which is secreted primarily by the osteoblasts. CKD patients are at an increased risk of malnutrition, characterized by low body mass index and muscle wasting. The mechanisms of malnutrition in CKD are complicated and involve multiple pathophysiological alterations. Serum fibroblast growth factor 23 (FGF 23) may be used as a marker of malnutrition in such patients.

**Material:** 50 CKD patients on maintenance hemodialysis were selected after fulfilling inclusion and exclusion criteria and divided into two groups for the study of serum fibroblast growth factor 23 (FGF 23), a novel hormone, which is secreted primarily by the osteoblasts. CKD patients are at an increased risk of malnutrition, characterized by low body mass index and muscle wasting. The mechanisms of malnutrition in CKD are complicated and involve multiple pathophysiological alterations. Serum fibroblast growth factor 23 (FGF 23) may be used as a marker of malnutrition in such patients.
Usefulness of Cat Score in Patients with Stable COPD and Acute Exacerbation of COPD and its Co-Relation with PFT
Pratik Mahesh Bansode, Chaitanya Kumar, Shankarappa M
Navodaya Medical College, Raichur

COPD was reported to be the 6th leading cause of death worldwide in the year 1990 and 4th in 2000. The CAT i.e. COPD Assessment Test was introduced in 2009 as an easy tool to assess health status impairment in COPD patients. The CAT evaluates severity that a patient experiences of the symptoms of COPD like breathlessness, cough, phlegm, etc. and is observed to be quite abnormal even in mild form of the disease. Hence it can be used as a simple tool to identify patients who are at increased risk of exacerbations.

Material: All OPD and IPD patients coming to Navodaya Medical college Raichur, fulfilling the inclusion criteria i.e.- Any patient with acute exacerbation of COPD diagnosed by clinical history and examination, any patient with Stable COPD and willing to participate were enrolled in the study. Patients with Interstitial Lung Diseases, Bronchial Asthma, History of Myocardial Infarction within 1 month, Chest or abdominal pain of any cause, oral or facial pain exacerbated by a mouthpiece, stress incontinence, dementia or confusional state, BMI > 25 kg/m2 were excluded from the study. Sample size - Acute Exacerbation: Minimum 50 cases. Stable Disease: Minimum 50 cases. Appropriate statistical software, including but not restricted to MS Excel, SPSS ver. 20 were used for statistical analysis.

Conclusion: The coefficient of correlation between CAT score and FEV1 (%) predicted in stable COPD cases is significant at the 0.05 level of significance. The coefficient of correlation between CAT score and FEV1 % predicted in stable COPD cases at 0.05 level of significance. The association between cases of Acute Exacerbation of COPD on Day 1 and Day 5 was significant between CAT scores, pulse rate, respiratory rate, FVC (%predicted) and FEV1 (%predicted). The CAT score provides a simple and reliable measure of overall COPD related health status for long term follow-up of an individual patient and their assessment. CAT score correlates well with PFT parameters in stable disease and during acute exacerbation. Hence it provides a reliable score of severity of the disease. In addition, the CAT score is cost effective, easy to use and is particularly useful for health settings where access to other objective measurements like spirometry is limited.

Comparative Study of SPO2 in all the Fingers of the Hands Measured by Pulse Oximeter
Rajashree AN, Rajashree AN
B.R. Ambedkar Medical College and Hospital, Bangalore

Peripheral capillary oxygen saturation (SpO2) measured by pulse oximeter is a simple and reliable objective measurement in routine medical practice that approximates the level of oxygen in arterial blood. Measurements with this inexpensive and non-invasive method also provide heart rate and an indication of tissue perfusion. Low perfusion (due to hypothermia, low cardiac output, profound anemia, etc.), venous pulsations in a dependent limb, excessive ambient light or motion can cause pulse oximetry artifact. Carboxyhemoglobinemia, methemoglobinemia and intravenous dyes can cause false SpO2 readings. There is no information in the current literature about which finger gives the highest or reliable recording of SpO2, hence this study was taken up.

Material: This was a hospital based observational
among 518 patients with no co morbid conditions at our hospital. These patients were enrolled for baseline pulse oximeter to estimate the SpO2. After obtaining informed consent, individuals from outpatient department of medicine aged above 18 years were enrolled in this study. Subjects who were women smokers, pregnant, menstruating, having ulcer or radial arterial failure due to Allen test results, hypotension, bradycardia, occlusion of coronary arteries, which fall in the fingers, were excluded from the study. They were monitored after 5 min of resting. All SpO2 measurements were taken on a pulse oximeter. A same brand oximeter was used in all volunteers. All SpO2 values were recorded in the sitting position and simultaneous blood pressure, heart rate and body temperature were measured. Measurements of each finger were recorded after waiting at least 1 min.

A total of 5180 SpO2 measurements obtained from 518 individuals. The highest average SpO2 value was measured from right middle finger (97.7 ± 1.2) and it was statistically significant. The right little finger had the lowest average SpO2 value.

Conclusion: Our study showed there is a difference of SpO2 between the fingers and the results were statistically significant. Hence this observation helps to accurately measure SpO2 and reduces redundancy especially in a pandemic where SpO2 value and pulse oximeter is used by large frequently.

Role of Potential Biomarkers in Management and Prognosis of Corona Virus Disease
Ankit Khatri
Indira Gandhi Government Medical College, Nagpur

Corona virus disease is a global pandemic. One of the key issues has been the very high volume of patients presenting to health centres or hospitals during the outbreak. It clearly overwhelms the human and mechanistic capacities available. Therefore, early and effective predictors of clinical outcomes are required for risk stratification.

Material: This is hospital based retrospective study on patients who were admitted in Covid wards/ICU at IGGMCH, Patna. A total of 128 patients were followed up. They were divided into 2 groups, who took injection Remdesivir and who did not. Several biomarkers like WBC, platelets, N/L, CRP, LDH, Serum albumin, BUL, SGOT, SGPT, C reactive protein, ferritin, D-dimer (p = 0.1), CPK-MB (p = 0.49), serum creatinine levels (p = 0.006), while other biomarkers like WBC (p = 0.00001). There was also significant change in ferritin (p = 0.004) in comparison to severe patients who died where CRP was more in more than 50years (42.85%). The mortality was more in males than females (56.25%). Most common causes of mortality in patients with respiratory distress are bronchopneumonia and lobar pneumonia. Most common non-respiratory cause was DKA. Common presenting complaints in patient with respiratory distress are SOB, cough and fever. Most common respiratory distress signs were tachypnoea, nasal flaring and subcostal retractions. Mortality rate of respiratory distress is 6.87%. Mortality is more in males than females. Most common causes of mortality in patients with respiratory distress are bronchopneumonia and lobar pneumonia.

Conclusion: Respiratory diseases are the most common causes of respiratory distress in adults. Non respiratory diseases causing respiratory distress is 18.62%. Most common diseases causing respiratory distress are bronchopneumonia and lobar pneumonia. Most common non-respiratory cause was DKA. Common presenting complaints in patient with respiratory distress are SOB, cough and fever. Most common respiratory distress signs were tachypnoea, nasal flaring and subcostal retractions. Mortality rate of respiratory distress is 6.87%. Mortality is more in males than females. Most common causes of mortality in patients with respiratory distress are bronchopneumonia and lobar pneumonia.

A Study of Cardiac Troponin T Levels in Acute Exacerbation of COPD and its Correlation with Severity
Donna Majumder, Madhurya Manjunath, Sangeeta Jajkarphak, Rohit Ishan, S Banerjee, Rajendra Kasana
Sawan Sanjay Singh, Vishal Mehta

Chronic obstructive pulmonary disease (COPD) is a significant health burden and is one of the leading causes of death having rising mortality rate in developed and developing countries. Cardiac troponin T (cTnT) is an established myocardial injury marker and not only increases in flow- limiting coronary artery stenosis or occlusion of coronary arteries but also in pulmonary embolism, septic shock, heart failure and stroke. The positive association between elevation of cTnT and neutrophils due to exaggerated inflammatory response leading to myocardial injury and increased cTnT can have prognostic value in acute exacerbation of COPD.

Material: The present study was conducted with the aim to study the role of cardiac troponin T elevation in level of cardiac Troponin T. 85 patients of a diagnosis of COPD age more than 20 years admitted in general medicine wards and intensive care units were enrolled in this study. A total of 36 stable COPD patients and 25 patients with AE of COPD, serum creatinine, arterial blood gas and oxygen saturation were also measured.

Conclusion: Serum UA may be a useful parameter in assessing disease severity and hypoxemia in known COPD patients and may be helpful in risk stratification. Increased serum UA levels denote poor state and bad prognosis. Since serum UA is a simple, inexpensive and widely available routine test, it can be used in risk stratification in patients with COPD and can help in early management of patients with COPD.

Comparison of Serum Uric Acid Levels in Patients with Stable Chronic Obstructive Pulmonary Disease and Patients with Acute Exacerbation
Yogesh Tanwar, Charanjit Singh S Chakraborty
VMMC and Safdarjung Hospital, Roewa

Correlation between Chest CT and RT-PCR Testing in India's Second COVID-19 Wave: A Retrospective Cohort Study
Divya Jyoti, Vishal Mehta
Rajendra Institute Medical Science, Ranchi

A novel coronavirus, later designated as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was found to be responsible for a cluster of pneumonia cases originating in Wuhan City, Hubei province, China and the clinical disease caused by it came to be known as COVID-19. The outbreak of COVID-19 originated in Wuhan City, Hubei province, China and the clinical disease caused by it came to be known as COVID-19.

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Could Disease Severity and Inflammatory Markers (IL-6, hs-CRP, TNF-Α) be Related to Frailty in COPD? A Prospective Study

N Bhakthavatchalam, Shyamala KK

Safdarjung Hospital, New Delhi

Chronic Obstructive Pulmonary Disease (COPD) causes mortality worldwide. Several tools like ABCD assessment tool, COPD assessment tool (CAT) and mMRC dyspnea scale are employed to assess extent of disease. Spirometry may help to characterize the extent of disease. Spirometry may be used to estimate lung function and guide therapy. Since COPD involves chronic lung infection, serum levels of several inflammatory markers may relate to disease severity. Several age-related factors and increased vulnerability to adverse health outcomes. We hereby correlate frailty in COPD patients with disease severity and serum concentrations of inflammatory markers (IL-6, hs-CRP, TNF-Α).

Material: Thirty COPD patients above age of 60 years from tertiary care diagnosed by spirometry were included after excluding other chronic comorbidities. IL-6, hs-CRP, TNF-Α in our study group, present in all patients of this study. The mean CAT score was 22.57 ± 8.83. The mean level of IL-6 (pg/mL) was 96.59 ± 112.01, of TNF-Α (pg/mL) was 19.02 ± 21.07, and of hs-CRP (mg/L) was 37.58 ± 45.67. A significant association (p<0.001) existed between frailty and COPD severity using COPD assessment tool, mMRC dyspnea scale and ABCD assessment tool (p<0.001). Frailty in COPD patients was also significantly associated with serum IL-6 (p=0.033) and hs-CRP (p=0.018) but not with TNF-Α (p=0.077). Frailty had no significant association with age or GOLD class (p=0.05).

Conclusion: These findings have important clinical implications and can provide new insights into COPD management thereby improving quality of life, especially of frail COPD patients. However more such studies are warranted to better clarify this relationship.

Study of Spirometry in Interstitial Lung Disease Patients and its Correlation with Clinical and Radiological Profile

Z Balas, V Vagh, V Nagoanark

D. Y. Patil Medical College, Hospital and Research institute, Kolhapur

Interstitial Lung Disease are heterogeneous group of disorders of the lower respiratory tract. For their smoldering evolution and non specificity of symptoms they may remain undiagnosed till the end. Spirometry is rarely diagnostic, reduction of lung function help to characterize the extent of disease. Spirometry may provide an estimated prognosis in Interstitial Lung Disease.

Material: The present study was conducted in department of General Medicine at Dr D Y Patil medical college and hospital, Kolhapur on 32 patients over a period of one year. All those patients who were suspected as case of interstitial Lung disease on clinical and radiological ground were included. A detailed history along with occupational history was obtained and noted. All patients were examined by experienced Clinical investigator and performed spirometry. Correlation between spirometry findings and clinical and radiological profile done.

Conclusion: Chest CT has a good sensitivity in detecting COVID-19 pneumonia and is useful for moderater- to-severe COVID-19 cases in resource limited settings, a PPV of 84.6% [95% CI, 79.2% - 88.8%], typical of SARS-CoV2 infection. Chest CT had a sensitivity of several inflammatory markers may relate to disease severity. Patients completed treatment during the year January 2018 to January 2020 were interviewed during their last visit to DOTS centre or during follow up visit to elicited the reason for non compliance using a structured proforma.

Factors Affecting Treatment Compliance among Tuberculosis Patients at DOTS Centre after Introduction of Daily Regimen and Fixed Dose Combination

Harshavardhan C, Rekha MC, Sarfaraz Jamal

Mandya Institute of Medical Sciences, Mandya

DOTS under National Tuberculosis Elimination Program has showed encouraging results, but non compliance remains a challenge to the TB programs and is a major threat to development of drug resistant tuberculosis. Objective: To describe the factors determining compliance to treatment and timing of treatment interruption.

Material: Information was collected from TB register and treatment cards of drug sensitive tuberculosis patients registering for treatment at DOTS center during study period at –Mandya institute of medical sciences, Mandya. Patients completed treatment during the year January 2018 to January 2020 were interviewed during their last visit to DOTS centre or during follow up visit to elicited the reason for non compliance using a structured proforma.

Conclusion: A total of 162 patients were enrolled, 95 male, 66 female and 1 transgender, 157 new TB patients and 5 were previously treated Drug sensitive TB patients were included (313 of pulmonary tuberculosis, 31 of extra-pulmonary tuberculosis). Out of 166, 89 were compliant, 72 were non-compliant, 10 patients died during the treatment. Of 63 non compliant, 12 were lost to follow up (called defaulters previously) and 51 interrupted treatment for more than one day but less than one month. More than one reason was often reported for discontinuation of treatment and most interruptions occurred in early part of continuation phase. Among factors determining compliance, interruption was more common in males(58.6%) than females(40.7%). Early improvement occurred in early part of continuation phase. Among factors determining compliance remains a challenge to the TB programs and is a major threat to development of drug resistant tuberculosis.

Prevalence of Dysnatremia in Pulmonary Tuberculosis

Balanwtr Singh, Vishnu N Hayagreew, Shyamala KK, Parashuram

BR Ambedkar Medical College and Hospital, Bengaluru

Pulmonary tuberculosis is one of the common diseases with high prevalence and is an important diagnostic tool in developing countries. It is one of the rare pulmonary infections which can induce hyponatremia and it is important to recognize hyponatremia because of its potential hazards.

Objectives: To assess the serum sodium levels in patients with pulmonary tuberculosis and to establish a relation between the serum sodium levels and its effect on illness in these patients.

Material: This is a single-center prospective observational Study conducted on patients with Pulmonary tuberculosis from August 2019 to June 2021 after obtaining ethical approval. The study included all patients enrolled in the study who met the predefined inclusion criteria of age more than 18 years and having been diagnosed with active tuberculosis. The research group's average fasting and postprandial blood sugars were 220.5 and 302.7 mg/dl. The study's HbA1c averaged 9.3. 50% of individuals had lower zone 2, 26.7% had Zone 3, 20.0% had Zone 4. 10% of them (76.7%) were frail. 10% belonged to GOLD Class I, 40% to Class 2, 36.7% to Class 3, 13.3% to Class 4. Of the 50 patients, 50% had Pallor. The research group's average fasting and postprandial blood sugars were 220.5 and 302.7 mg/dl. The study's HbA1c averaged 9.3. 50% of individuals had lower zone 2, 26.7% had Zone 3, 20.0% had Zone 4. 10% of them (76.7%) were frail. 10% belonged to GOLD Class I, 40% to Class 2, 36.7% to Class 3, 13.3% to Class 4. Of the 50 patients, 50% had Pallor. The research group's average fasting and postprandial blood sugars were 220.5 and 302.7 mg/dl. The study's HbA1c averaged 9.3. 50% of individuals had lower zone 2, 26.7% had Zone 3, 20.0% had Zone 4. 10% of them (76.7%) were frail. 10% belonged to GOLD Class I, 40% to Class 2, 36.7% to Class 3, 13.3% to Class 4. Of the 50 patients, 50% had Pallor. The research group's average fasting and postprandial blood sugars were 220.5 and 302.7 mg/dl. The study's HbA1c averaged 9.3. 50% of individuals had lower zone 2, 26.7% had Zone 3, 20.0% had Zone 4. 10% of them (76.7%) were frail. 10% belonged to GOLD Class I, 40% to Class 2, 36.7% to Class 3, 13.3% to Class 4. Of the 50 patients, 50% had Pallor. The research group's average fasting and postprandial blood sugars were 220.5 and 302.7 mg/dl. The study's HbA1c averaged 9.3. 50% of individuals had lower zone 2, 26.7% had Zone 3, 20.0% had Zone 4. 10% of them (76.7%) were frail. 10% belonged to GOLD Class I, 40% to Class 2, 36.7% to Class 3, 13.3% to Class 4. Of the 50 patients, 50% had Pallor.
**Uric Acid: A Mirror to the Lungs in COPD**

Sahana K, Sivarajani H

Bangalore Medical College and Research Institute, Bangalore

Chronic obstructive pulmonary disease (COPD) is presently the third leading cause of death worldwide with 80% of deaths due to COPD occurring in countries with low- and middle-income. Impaired lung function is associated with high mortality rates, due to hypoxia-induced degradation of adenosine, pulmonary arterial hypertension and inflammation-induced damage of lung tissue. This study aims to find out if serum uric acid can be used as an early marker of disease severity in COPD patients by correlating it to spirometry values.

**Material:** The objectives of this study were to estimate serum uric acid levels in patients with COPD and to correlate serum uric acid levels with spirometry values in patients with COPD. This is a cross-sectional study conducted on 80 patients of COPD satisfying inclusion and exclusion criteria admitted in hospitals attached to Bangalore Medical College & Research Institute. All necessary investigations were done, including serum uric acid levels. The patients underwent spirometry and the severity of airflow limitation was classified according to GOLD 2021 guidelines and correlated with the serum uric acid levels.

**Observation:** The age of the patients ranged from 42 to 88 years of which 72 were males and 8 females with 85% of patients were smokers. In this study, out of 80 patients, 75.5%, 16.3%, 38.8% and 37.5% belonged to MMRC grade 0, 1, 2 and 3 respectively. Majority of patients i.e. 33(42.5%) were included in the GOLD stage 1 and 34(42.5%) categorized as GOLD stage 1 and 3 respectively. Mean uric acid level in patients was 3.74, 5.44 and 6.70 mg/dL in GOLD stage 1, 2 and 3 respectively. 80%, FEV1% to 80% and FEV1 30% to <50% predicted values respectively while it was 4.43, 6.27 and 6.61 mg/dL. As the severity increased, the uric acid values increased significantly (p<0.05). Significant correlation was also seen between uric acid levels and spirometry values.

**Conclusion:** The NLR and PLR may be used as a useful and easily accessible tool for evaluating the ongoing inflammation during stable period and the disease severity during acute exacerbations in COPD patients. NLR ratio was found to be more specific to severity of COPD compared to PLR ratio.

**Can B-Type Natriuretic Peptide (BNP) be a Predictor of Severity and Outcome of Community-Acquired Pneumonia (CAP)? A Prospective Study**

Jagadeesan S, Tripathi BK, Pranav Patel, Kamna N, Muthuath V, Vardhaman Mahavir Medical College and Safdarjang Hospital, New Delhi

Tropical India holds about 23% of the global pneumonia burden with case fatality rates ranging between 15 to 30%, with CAP being one of the prominent causes of morbidity and mortality among adults. BNP, a hormone from ventricular myocytes during cardiac stretch or stress, causes vasodilation and natriuresis. Perhaps established as an efficient biomarker in cardiac illnesses, the possibility of it being a predictor of severity and mortality in CAP is studied.

**Material:** 175 participants with CAP were included in the study evaluated by clinical and biochemical parameters. BNP was measured at presentation and after two weeks.

**Observation:** At presentation, the mean values of BNP, CRP, ESR, TLC, CRB-65 scores were estimated at presentation and correlated with the serum uric acid levels.

**Conclusion:** Gauging BNP levels at admission is a rapid and reliable means to triage CAP pneumonia patients into various levels of care. BNP correlates well with other biomarkers and CRB-65 scores and thus the clinical severity and outcome of CAP.

**Obesity & Metabolic Disorders**

Assessment of liver fibrosis using non-invasive screening tools in individuals with diabetes mellitus and metabolic syndrome

Namitha Shaji, Abhishek Singhai, Rajnish Joshi

All India Institute of Medical Sciences (AIIMS), Bhopal

Despite its rising prevalence, and its potential to lead to life threatening complications, there are no recommendations in the current guidelines for screening individuals with diabetes mellitus or high BMI for NASH (non-alcoholic fatty liver disease) (NASH) (non-alcoholic steatohepatitis), mainly due to the uncertain performance and feasibility of currently available screening tools. This research was carried out to assess the diagnostic accuracy of non-invasive screening tools in predicting liver fibrosis in individuals with diabetes mellitus and metabolic syndrome.

**Material:** 140 patients with diabetes mellitus and metabolic syndrome, identified between March 2020 and October 2021 were studied. Liver stiffness measurement by point- by-point TAP (transient applications of pressure) analysis, sensitivity, specificity, negative predictive value (NPV) and positive predictive value (PPV) were calculated for each of these screening tools. The area under the ROC curve (AUROC) was used to calculate the diagnostic accuracy of these scores.

**Observation:** Out of the 140 participants in the study, (83 males (59.29%), 30 (21.43%) had liver fibrosis as per liver stiffness measurement by point-by-point TAP analysis. The mean age was 53±12.42 and 27.37±2.73 respectively in the ‘Fibrosis’ group and 56.20±11.76 and 27.10±4.22 in the ‘No fibrosis’ group. The mean BMI of the ‘Fibrosis’ group was higher than in the ‘No fibrosis’ group (p<0.05). The AUROC for (FIB-4 Score, NAFLD-Fibrosis Score, APRI Score, AST/ALT Ratio, BARD Score) were 0.669, 0.657, 0.655, 0.599 and 0.599 respectively (p<0.05) had the highest AUROC, followed by NAFLD-Fibrosis Score(p<0.05). But, all the scores had relatively low specificity(<60%), which makes them unreliable for screening.

**Conclusion:** FIB-4 Index and NAFLD-Fibrosis Score can be used to reliably exclude liver fibrosis in individuals with diabetes mellitus and metabolic syndrome in the Initial assessment. But, not necessarily accurately diagnosing liver fibrosis. Utilization of these non-invasive and cost-effective screening tools in routine practice, may have promising results in predicting liver fibrosis in ‘at risk’ populations.

**Study of Association of Leptin and Leucocyte Telomere Length with Body Mass Index in Adult Indian Population a One Year Cross Sectional Study**

Goutham Sai Krishna Kuchipudi, Madhav Prabhu

JNMC Belagavi, KLE University, Belagavi

Obesity is a leading preventable cause of death and a growing health problem worldwide with increasing rate in both adults and children. Obesity is an important risk factor for accelerated aging and various metabolic syndromes. Telomere length as proinflammatory adipokine in obesity is well established. Telomere length acts as a promising tool for accelerated aging and various metabolic syndromes. This study is aimed to quantify leucocyte telomere length & its association with biochemical and anthropometric surrogates of obesity.

**Material:** This cross-sectional study was conducted for a duration of 1yr on patients admitted in the wards of internal medicine department of the study hospital. After a written informed consent and a thorough history, patient’s anthropometric measurements were taken following all the procedure as per the inclusion criteria. Participants were divided into categories based on age and BMI. Blood samples are collected for the assessment of Leucocyte Telomere length through qPCR technique. Leptin through ELIZA method and HBA1c through HPLC method.

**Observation:** In our present study, a total of 90 patients were included. These patients are equally divided in age groups of 18-39y, 40-54y and >55y. The mean age of the patients was 48.84±16.84yrs. The patients were further categorized equally in each age group into normal, overweight and obese. The age distribution of the study subjects was 24.20±3.32 kg/m2. Age is found to have a negative correlation with telomere length (r=-0.215). A significant negative correlation of BMI with telomere length is observed (r=-0.28, p<0.05). No significant correlation between leptin with telomere length (r=0.032, p>0.386) or other anthropometric parameters was observed. Waist circumference has a positive correlation with waist/hip ratio (r=0.281) BMI (r=0.640), weight (r=0.677) and neck circumference (r=0.687). Whereas Telomere length has a negative correlation with waist circumference (r=-0.171), neck circumference (r=-0.226) and other anthropometric parameters. In our study a negative correlation was observed between waist/height ratio and telomere length. Waist hip ratio had a positive correlation with BMI (r=0.138) and telomere length (r=0.232).

**Conclusion:** Telomere length showed a negative correlation with all anthropometric measures except WHR. Similarly, a positive correlation was observed with age and BMI. We do not show any association with telomere length or anthropometric measures in our study. Our study shows that WHR is a poor marker of central obesity than BMI. The notion of metabolically healthy obese also holds true in our study results.
A Study of Correlation between Non-Alcoholic Fatty Liver Disease and Carotid Atherosclerosis

Ashwini Sagar, Raghaven德拉, Syeda Ayasha Farheen
Mandya Institute of Medical Sciences, Mandya

Non-Alcoholic Fatty Liver Disease (NAFLD) is a clinicopathological condition characterized by a wide spectrum of histological abnormalities and clinical outcome. Histological abnormalities include hepatic steatosis, characterized by fatty infiltration of liver cells resembling that of alcohol-induced liver injury but occurring in patients who do not abuse alcohol. NAFLD is now recognized as the most common form of chronic liver diseases in developed countries with an estimated prevalence of 20-30% of the population. NAFLD is closely linked to metabolic syndrome (MS). The association between NAFLD and coronary artery disease, which is a major cardiovascular risk factor, has been supported by many studies. The present study was carried out to study the prevalence of MS, its correlation with BMI and carotid intima media thickness (CIMT) in patients with NAFLD.

Material and Methods: The study was a longitudinal study of 60 non-alcoholic patients with BMI ≥ 25 kg/m². All patients were divided into two groups based on MS, namely MS positive and MS negative. The MS was defined as per NCEP-ATP III criteria. CIMT was measured using gray-scale ultrasound technique. Blood investigations included Liver Kidney Space (LKS) measured by ultrasonography, BMI was taken as a parameter for visceral Fat (VF). Correlation was undertaken using the necessary formula.

Results: Of the patients studied, 38% were MS positive and 62% were MS negative. Patients with MS had higher mean weight and waist circumference, which were significantly associated with MS (p<0.05). There was no significant difference in the mean CIMT between the two groups.

Conclusion: The present study demonstrates a significant association between NAFLD and MS. Further, it shows that MS and NAFLD are significantly associated with obesity, BMI, and carotid intima media thickness.

To Assess Metabolic Syndrome in Patients of Vitiligo Attending a Tertiary Care Hospital in Central India

Vishal Gourh, Anand Dubey
Gandhi Medical College, Mandsaur, Bhagalpur

Metabolic syndrome has been observed in patients with vitiligo. Literature suggest that there is some link between vitiligo and metabolic syndrome. Autoimmunity, oxidative stress and decreased number of melanocytes are involved in its pathogenesis. This study aimed to assess metabolic syndrome and its association with different types of vitiligo, age of patients and duration of vitiligo.

Material: We enrolled 60 vitiligo patients who met inclusion criteria. The study was a cross-sectional study from 1st August 2019 to 31st July 2021. Detailed history, physical examination and blood investigations were done in all patients. The NCEP-ATP III criteria was used for diagnosis of metabolic syndrome.

Results: Of the participants, 35.6% were M:F: 1:2.3. Metabolic syndrome was observed in 12.9% vitiligo patients. Advancing age and non-segmental vitiligo were significantly associated with metabolic syndrome (p<0.05).

Conclusion: Metabolic syndrome is a condition which may affect individuals at any age and has a major risk of developing metabolic syndrome in future. In our study Metabolic syndrome is observed in 12.9% patients with vitiligo. Early identification of mechanisms and appropriate management of such patients may help in reducing cardiovascular morbidity and mortality. Further prospective studies are needed to establish relation between vitiligo and metabolic syndrome.

Evaluation of Interleukin 6 (IL-6), Tumor Necrosis Factor Alpha (TNF-α) and Paraoxonase 1 (PON 1) in Obese and Non-obese Metabolic Syndrome

Karuppu Samy, YC Porwali, Amita Yadav
Vardhaman Mahavir Medical College and Safdarjung Hospital, New Delhi

Metabolic syndrome is a multiplex of the risk factor for the development of type 2 diabetes and cardiovascular disease. The factors reflecting the development of metabolic syndrome are: insulin resistance, hypertension, dyslipidemia, pro-inflammatory profile. There could be a significant correlation between serum uric acid levels and the components of metabolic syndrome. The prevalence of Hyperuricemia is increasing even in developing countries. Hyperuricemia may be asymptomatic in many cases. It has been known to be associated with metabolic syndrome. In this study we have tried to see the association between serum uric acid levels and the components of metabolic syndrome in a tertiary care centre in South India.

Material: It was a case-control, observational study carried out in the Medicine OPD, 60 Obese and 60 Non-obese patients enrolled in the study. They were subjected to detailed history taking, clinical examination, investigations like fasting and 2-hour blood glucose levels, fasting lipid profile and serum uric acid levels. Mean serum uric acid levels were assessed in both cases and controls. The association between serum uric acid levels and the components of metabolic syndrome was also studied.

Results: Mean serum uric acid levels in cases were 7.9 mg/dl in men and 6.8 mg/dl in women. Mean serum uric acid levels in controls were 4.8 mg/dl in men and 3.9 mg/dl in women. This difference was statistically significant (p<0.001). Among the subjects having metabolic syndrome, 28 subjects (65%) had hyperuricemia. Among the controls 10 subjects (25%) had hyperuricemia.

Conclusion: The above study shows that serum uric acid levels are significantly elevated in patients with metabolic syndrome. The association of elevated levels of uric acid was seen with all the components of metabolic syndrome.
Infection by one serotype results in lifelong immunity to other serotypes. However, various serotypes have the potential to cause severe or critical cases early using a novel test for predicting mortality. Coronavirus utilizes angiotensin-converting enzyme 2 (ACE 2) which is present on the cell surface of multiple organs including the heart, lungs, kidneys, testes, and intestine. ACE 2 receptors are the entry point for SARS-CoV-2 and is very commonly associated with cardiovascular disease. The ACE 2 receptors are upregulated by Angiotensin 2 converting enzyme (ACE2) and are present in the liver, cardia, skeletal muscles, kidneys, brain, and testes. The ACE 2 receptors are the entry point for SARS-CoV-2, which leads to multi-organ failure. ACE 2 receptors play a crucial role in the pathogenesis of COVID-19 and are involved in the regulation of immune response and inflammation. The ACE 2 receptors are upregulated by Angiotensin 2 converting enzyme (ACE2) and are present in the liver, cardia, skeletal muscles, kidneys, brain, and testes. The ACE 2 receptors are the entry point for SARS-CoV-2, which leads to multi-organ failure. ACE 2 receptors play a crucial role in the pathogenesis of COVID-19 and are involved in the regulation of immune response and inflammation. The ACE 2 receptors are upregulated by Angiotensin 2 converting enzyme (ACE2) and are present in the liver, cardia, skeletal muscles, kidneys, brain, and testes. The ACE 2 receptors are the entry point for SARS-CoV-2, which leads to multi-organ failure. ACE 2 receptors play a crucial role in the pathogenesis of COVID-19 and are involved in the regulation of immune response and inflammation.
renal excretion of sodium.

82.8% patients were having SADH.

12.3% patients had hypertension too.

Diagnosis: 385 patients had intracerebral pathology like CVA, meningitis or SOL. 32.3% had sepsis or underlying infection. 21.9% had dilutional hyponatremia due to using VKD/HF/CLD. 7.1% had adrenal insufficiency. 3% patients had other causes of hyponatremia like SIADH causing drugs and malignancy.

Mean time to correction of hyponatremia with standard treatment methods was observed to be 3.5 days after admission.

Complications: 20.9% patients died in ICU stay. One Patient presenting with Acute liver failure, sepsis developed locked in syndrome during hospital admission. Patients developed rest tremor.

Conclusion: Hyponatremia in ICU in seen in elderly patients more commonly. Hyponatremia remains associated with diseases involving every organ system. Treatment strategies differ with clinical presentation of the patient. Prompt diagnosis and correction at proper pace prevents dreaded complications.

To Study the Clinical Profile of Thromboembolic Events in Covid 19 Patients

Aana, Dilip Patil, Pragnesh Shah

ACPM Medical College, Dhule

The SARS-COVID 19 causing 19 disease. B/l pneumonia, systemic inflammation, coagulation activation, ARDS, multi-organ failure are the key features of COVID-19. Patients need ICU admission. Prolonged thrombocytopenies, TNF, IL 6, 8, 1 beta, causes cytokine storm in COVID 19 disease.

Material: In this single-center, retrospective, cross sectional study, the clinical and laboratory characteristics of 154 patients with severe COVID-19 were collected. 38 Patients with Severe COVID-19 had incidence of thromboembolism with its symptoms, and 116 patients (ie, the controls) did not have incidence of thromboembolism. A severe COVID-19 was defined as including at least one of the following criteria: (1) respiratory rate >30/min. (2) Oxygen saturation <90%. (3) PAO2 / FIO2 ≤300mm hg. (4) Patients, either with shock or respiratory failure, requiring mechanical ventilation, or combined with other organ failure, requiring admission to intensive care unit (ICU). Also, this study was those cases with high clinical suspicion [suchcacycin >100 bpm, systolic arterial tension <100 mmhg or signs of right ventricular pressure overload]. PE severity was assessed using the simplified pulmonary embolism severity index (S-PESI).

Observation: Of 154 patients with severe COVID-19, 38 (24.67%) Had incidence of thromboembolism. Compared with patients with severe COVID-19 without incidence of thromboembolism, patients with incidence of thromboembolism were older, susceptible to receiving mechanical ventilation and admission in ICU, had higher mortality. In addition, patients with severe COVID-19 with thromboembolism had higher levels of leukocyte count, normal range of body protein, procalcitonin, ferritin, interleukin (IL) 2 receptor, IL-6, IL-8, tumor necrosis factor a, D-dimer, fibrinogen, lactic dehydrogenase and n-terminal probrain natriuretic peptide. Among patients with severe COVID-19 with incidence of thromboembolism, more non-survivors were men (50% (75%) vs women (25%). Non-survivors had severe inflammatory response, and cardiac, hepatic, renal and coagulation impairment. Finally, the kaplan-meier survival curve showed a trend towards poorer survival in patients with severe COVID-19 with incidence of thromboembolism than patients without incidence of thromboembolism. The hr was 2.24 (95% CI 1.74-2.97, P = 0.013). After adjustment for age, sex, hypertension, cardiovascular disease and cerebrovascular disease by sex regression. The median survival data, 100% survival admission in patients with severe COVID-19 with and without incidence of thromboembolism were 8 days and 15 days, respectively.

Conclusion: The mortality rate in patients with severe COVID-19 and incidence of thromboembolism is high. Incidence of thromboembolism may lead to an increase in the risk of death.

Subclavian vein collapsibility as a predictor of fluid responsiveness in spontaneously breathing hypertensive patients

Arvind Kumar, Manjit Mahendran, Smiti Hari, Piyush Ranjan, Manish N, Soneja, Neaveet Wig

All India institute of Medical Sciences, New Delhi

Introduction: Volume replacement remains the cornerstone of resuscitation in critically ill patients. This study explored the ability of the subclavian vein collapsibility index in predicting fluid responsiveness.

Material and Methods: In this prospective observational study conducted in the Department of Medicine, All India Institute of Medical Sciences (AIIMS), New Delhi, hypertensive patients presenting to the emergency underwent sonographic evaluation of Inferior Vena Cava and right Subclavian Vein at baseline and 10 minutes. The study population was divided into two groups: Responders and non-responders, based on 0.25 increase in stroke volume following fluid bolus.

Observation and Results: Among 45 recruited patients, 33 patients were responders. The area under ROC curve for predicting fluid responsiveness was 0.745 (95% confidence interval: 0.549 – 0.941; P = 0.014). An SCV-CI of 0.6 predicts fluid responsiveness in a hypertensive patient in terms of change in stroke volume by 15% following fluid bolus with a sensitivity of 87.8% (95% confidence interval: 71.80% to 96.60%) and specificity of 66.67 % (95% confidence interval: 34.89% to 90.08%). Spearman’s correlation coefficient between IVC CI and SCV CI was 0.59 (P < 0.001, n = 135).

Conclusion: The results of the study show that right subclavian vein collapsibility index in predicting fluid responsiveness in a spontaneously breathing patient in circulatory shock and correlates with Inferior Vena Cava collapsibility index. This was an alternative to Inferior Vena Cava in predicting fluid responsiveness in spontaneously breathing patients.

Assessing the Prognostic Value of CRP/Albumin Ratio and Lactate/Albumin Ratio in Critical III patients

Inaganti Nithin Sai, Rajendra Prasad, Varsha Th

JSS Medical College, JSSAHER, Mysore

The ability to predict the fate of critically ill patients admitted to an intensive care unit is very important, as there are only few studies which have focused on this aspect. Our study has focused to determine the relationship between C-Reactive protein/Albumin ratio (CAR) and Lactate/Albumin ratio (LAR) and Intensive care unit stay, the requirement for vasoressor and mechanical ventilator support, recovery and mortality in the patients admitted to critical care unit.

Material: The study group comprised of 100 patients who were admitted to critical care unit. These patients were evaluated using a simplified proforma, detailed case history and clinical examination. Blood sample collection was done after obtaining valid consent from the subjects immediately after admission and serum Albumin, Lactate and C-reactive protein levels were estimated.

Observation: The mean age of the patients in our study was 54.05. Out of the total patients admitted 74% of the patients were males. The common diagnosis was COVID bronchopneumonia (12%). 75% cases were seen having Glasgow Coma scale 15. 88% cases required FIO2 less than 50%. Based on Younden’s index, LAR of 0.84 is ideal cut off with 88.2% sensitivity and 88.2% specificity. CAR on the other hand shows maximum Youden’s index at 48 hours. Mortality was significantly high with higher values of these ratios were found. Patients with low Albumin level and high CRP required Ventilator support which was statistically significant. Patients who needed inotropic support and mechanical ventilator support had higher CAR (P=0.001). Patients who received inotrope support had higher ESR and CRP levels.

Conclusion: CAR and LAR are better indicators of mortality duration and ICU stay for patients with higher values of these ratios were found to have increased risk of mortality. However CAR was found to be better indicator of mortality duration than LAR and it was also noted that the patients who required inotropes and mechanical ventilator support were found to have higher CAR.

Hyperuricemia as an Early Marker in Predicting Mortality and Morbidity in Patients with Sepsis

Manish Soneja, Naveet Wig

Arvind Kumar, Pragnesh Shah

ACPM Medical College, Dhule

Sepsis is a life-threatening organ dysfunction with high mortality and morbidity. Various mortality prediction scores are currently in use for prediction of mortality. Although combination of various scores have not been used. The aim of the study was to evaluate the SOFA, APACHE II, SAPS II, as a predictor of mortality and to assess the usefulness of combination of different scores.

Material: A one-year hospital based prospective study conducted from 1st January 2020 to 31st December 2020 in medical ICU, where 100 patients of sepsis admitted in ICU with evidence of organ dysfunction were included in the study with various sepsis and non-sepsis patients. SOFA and SAPS were calculated at 24 and 48 hours of admission, using laboratory results and clinical examination. and an attempt to access for predictive accuracy of combination of scores was undertaken.

Observation: Majority of the patients (37%) were in the age group of 66-79 years with maximum mortality in this age group of (39.22%). Mortality rate was 51%, with higher mortality in the female group being 68.63%. Diabetes was most common comorbid in our study (41%). No significant difference was observed in physiological variable over 24 and 48 hours, however decrease in WBC and platelet count was noted at the end of 48 hours. Mean SAPS II of SOFA II, APACHE II, SAPS II in group in the mortality group than the recovery group. All three scores had good diagnostic performance, with max sensitivity at 1 day of APACHE II and max specificity at SAPS II. Both were 97.73%, respectively, max specificity at 24 and 48 hours was noticed with SAPS II being 96.97% and 87.88% respectively. On further combination of scores, maximum Youden’s index was seen with SOFA plus APACHE II at 48 hours of 74.36%, maximum specificity was seen at 24 hours with SOFA plus APACHE II at 74.94%. Upon combination of scores with SAPS II the combination of scores, best diagnostic performance was seen with SOFA plus SAPS II at 48 hours.

Conclusion: All the three scores showed good mortality prediction rate but among the scores, sensitivity was seen with APACHE II score at 24 and 48 hours and higher specificity was seen with SAPS II at 24 and 48 hours. Combination of SAPS II and SOFA showed better predictability with combination of SAPS II and SOFA showing maximum Youden’s index at 48 hours. Mortality was comparatively higher among the females and elderly group with most common risk factor being diabetes.
Gastroenterology

Comparison of Novel Fibrosis Index (NFI) with Aspartate aminotransferase to platelet ratio index (APRI) in Type II Diabetes mellitus patients with Non-alcoholic fatty liver disease and fibrosis (NADF).

Amit Kumar
Assam Medical College, Dibrugarh

With India being the “Diabetes capital of the world”, non-alcoholic fatty liver disease (NADF) is becoming the most common cause of liver dysfunction. Varied prevalence of this disease in Type II Diabetics indicate variability in NADF risk factors along the lines of the particular diagnostic methods used. Investigations like liver biopsy and ultrasound abdomen have their limitations. Liver biopsy is invasive on the other hand ultrasound has less sensitivity. Several others are in the list, but are cost ineffective. Among the several non-invasive biomarkers, recently curated fibroscan and MLN Medical College, Dibrugarh

Malabsorption Spectrums in India

Chandrasekhar Valupadas, Shubhendu Gosh, SK Adnan Yusuf, Chakravorty Medical College, Kolkata

Among the causes of malabsorption, tropical sprue is one of the leading cause. Several reports indicating that celiac disease, now being recognised more frequently.

Material: A prospective observational study was conducted at SK Hospital, Prayagraj from August 1st 2020 to March 15th 2021, which included only critically ill patients who required ICU admission. Patients who have been diagnosed with a known renal disease were excluded from the study. Blood as well as urinary samples for NGAL and other laboratory parameters were collected within 8 hours of admission. Patients who developed renal dysfunction were noted as our cases and the others were noted as controls.

Conclusion: The study was done on 125 patients, out of which 67 developed AKI while 58 did not develop AKI. Patients of known renal diseases were excluded from the study. Patients who developed renal dysfunction were noted as our cases and the others were noted as controls.

To study the correlation of Serum Uric Acid Level with Morbidities and Mortality in Sepsis Patient and its Prognostic Significance

Jayprakash Mishra, Jitendra Kumar Jatav
NSCB Medical College and Hospital, Jabalpur

Sepsis becomes a life threatening condition, which diagnosed clinically with q-NGAL score at bedside. In sepsis there is increased oxidative stress due to high oxygen free radicals and low levels of antioxidants causing cellular damage, increased leucocyte count, leading to cytokine storm, resulting in inhibition of uric acid (UA) excretion, causing rise in serum UA. Thus UA can be a marker of severity of oxidative damage in patients of sepsis.

Material: This was a prospective cohort study, conducted from March 2020 to August 2021 at tertiary care centre in the state of Madhya Pradesh, India. Study includes 80 patients with clinical diagnosis of sepsis in age group of 216 and ≤60 years of both sexes; who were admitted in Medicine ICU and wards. Clinical diagnosis of sepsis was based on 2016-Sepsis-3 criteria including q-SOFA score.

Observation: In present study 45(56.30%) cases were males and 35(43.70%) females. It has been observed that the cases with q-NGAL score>3 (52 or 65%) and serum UA level >7 mg/dl had good predictive ability for AKi. Patients who developed renal dysfunction were noted as our cases and the others were noted as controls.

Conclusion: In conclusion, q-NGAL may determine a useful early prognostic marker in sepsis management.

Prognostic Role of NGAL in Critically Ill Patients

Anubhuti Bhardwaj, Ajay Kumar Chaurasia, Poonam Gupta, Upma Naran, Arvind Gupta
MLN Medical College, Prayagraj

Acute kidney injury (AKI) is a frequently encountered outcome in critically ill patients, accounting for increased mortality. Neutrophil gelatinase associated lipocalin (NGAL) has been of paramount importance as a novel biomarker for early detection of AKI in critically ill patients. In this study, we attempted the use of NGAL in critically ill patients so that timely intervention can be done to reduce morbidity and mortality in sepsis patients.

Material: A prospective observational study was conducted at SKN Hospital, Prayagraj from August 1st 2020 to March 15th 2021, which included only critically ill patients who required ICU admission. Patients who have been diagnosed with a known renal disease were excluded from the study. Blood as well as urinary samples for NGAL and other laboratory parameters were collected within 8 hours of admission. Patients who developed renal dysfunction were noted as our cases and the others were noted as controls.

Observation: The study was done on 125 patients, out of which 67 developed AKI while 58 did not develop AKI. Patients who have been diagnosed with a known renal disease were excluded from the study. Patients who developed renal dysfunction were noted as our cases and the others were noted as controls.

Conclusion: A single measurement of NGAL at the time of admission had good predictive ability for AKI. Higher mortality was seen in patients with higher stage of AKI (P <0.01). The cutoff of serum and urinary NGAL levels for AKI was >42.3 mg/ml and >1.4 mg/ml respectively (P value <0.001). Hazard ratio for all cause mortality of raised serum and urinary NGAL was 2.0862 (p value <0.001, 95% CI: 1.0031 to 1.0092) and 2.0346 (p value<0.0035, 95% CI: 1.0015 to 1.0078) respectively. Serum and urinary neutrophil gelatinase associated lipocalin at values >42.3 and >1.4 mg/ml were respectively found to predict requirement of hemodialysis (p value<0.001).

Conclusion: Serum IgA levels and IgA/IgG ratio in Alcoholic Liver Disease

Nagaraj M Bhat B
Mysore Medical College and Research Institute, IRwin Road, Bantwal, Mysore

The patient’s history is inaccurate and unreliable in diagnosis of ALD. None of the laboratory test gives an unequivocal indication of Alcohol Abuse. GGT indicates Alcohol Abuse only in background of normal LFT. After the onset of liver disease, alcoholics usually develop cirrhosis, which is not a parallel to ALP. Although, AST/ALT>2 is useful marker for ALD, its valid only in Steatohepatitis. The ratio may be normal in cirrhosis although serum GGT is the most specific biomarker for ALD, its an acute phase reactant, its valid only in Steatohepatitis, not in Cirrhosis. The main metabolite of ethanol is acetaldehyde which accumulates in alcoholics. Acetaldehyde binds exposed proteins which trigger immunoglobulin production. The histopathology directed against acetaldehyde adducts are predominantly IgA type.

Material: All subjects admitted to hospital with ALD with cirrhotic disease were included in the study. None of laboratory test gives an unequivocal indication of Alcohol Abuse. GGT indicates Alcohol Abuse only in background of normal LFT. After the onset of liver disease, alcoholics usually develop cirrhosis, which is not a parallel to ALP. Although, AST/ALT>2 is useful marker for ALD, its valid only in Steatohepatitis. The ratio may be normal in cirrhosis although serum GGT is the most specific biomarker for ALD, its an acute phase reactant, its valid only in Steatohepatitis, not in Cirrhosis. The main metabolite of ethanol is acetaldehyde which accumulates in alcoholics. Acetaldehyde binds exposed proteins which trigger immunoglobulin production. The histopathology directed against acetaldehyde adducts are predominantly IgA type.

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Progressive deterioration of liver functions for more than 6 months is considered Chronic liver disease (CLD). Hepatic fibrosis occurs in response to chronic liver injury. The gold standard for assessment of hepatic fibrosis is liver biopsy, which is an invasive and painful procedure and rarely can pass on potential life-threatening complications. Thus non-invasive tests that can correctly identify those with hepatic fibrosis are necessary. Several non-invasive markers have been developed which are useful supplements to assess stages of fibrosis. These are biomarkers (aspartate transaminase/ALT to alanine transaminase (AST) ratio (AAR), AST to Platelet Ratio Index (APRI), fibrosis index (FI), fibrosis-4 (FIB-4), Age-Platelet Index (API), Fibrosis Cirrhosis Index (FCI)) and transient elastography. In our study, we compared Novel Fibrosis Index (NFI) with other available noninvasive serum indices and transient elastography to predict the Liver Fibrosis Stages. NFI=[(bilirubin+(ALP)2]/(platelet count (albumin))2]-n, where n=2000 is a constant.

Materials and Methods: A total of 142 patients with confirmed chronic liver disease were included. All the patients underwent transient elastography and routine hematological and biochemical investigations. Fibrosis staging was done using transient elastography (FibroScan) using the fibroscan score. Then the serum indices for predicting liver fibrosis were calculated and compared for various fibrosis stages with Novel Fibrosis index (NFI).

Observation: Out of 142 patients, the majority of the patients belonged to age above 40 years and were males (65%). The patients belonged to various stages of liver disease with the maximum being F3 (77.4%) and the most common etiology of chronic liver disease was Viral Hepatitis (47%). The most common being Hepatitis B. The optimum cutoff of NFI for F4 stage was 2560 with a sensitivity of 73.8% and specificity of 81.8%. The optimum cutoff of NFI for F3 stage was 22112 with a sensitivity of 63.6% and specificity of 72.93%. The optimum cutoff of NFI for F2 stage was 23134 with a sensitivity of 100% and specificity of 53.5%. The NFI had maximum area under the curve when compared to other indices in predicting F2, F3 and F4 stage.

Conclusion: NFI was the best index in predicting various fibrosis stages in chronic liver disease patients compared to other available serum indices and had maximum accuracy in predicting F4 stage.

Evaluation of diagnostic accuracy of inflammation markers (Neutrophil-Lymphocyte Ratio (NLR), Red cell Distribution Width (RDW), Prognostic Nutritional Index (PNI) and Lymphocyte Monocyte Ratio (LMR)) for outcomes in patients with acute pancreatitis

Vasul Jain, Preetam Nath, Shubhransu Patro
Kalinga Institute of Medical Sciences, Bhubaneswar, Odisha

The mortality due to acute pancreatitis, one of the commonest gastrointestinal disorder for emergency admissions, is caused due to severe disease and severe acute pancreatitis. The early assessment of severity is essential but the available multiparameter scoring systems are cumbersome and need to be measured repeatedly. A simple and less cumbersome score is required for easier and quick assessment of severity in acute pancreatitis.

Material: After obtaining detailed history all participants were subjected to investigations like CBC, ESR, amylase, lipase, LFT, RFT, Ultrasound abdomen and pelvis. Severity scores like APACHE II, SAPS II, BISAP were calculated. LMR, RDW, PNI were calculated on day 1, 3, 7 & 14 of admission and their diagnostic accuracy were assessed in predicting severity, mortality and organ failure.

Observation: A total of 92 patients with acute pancreatitis (39 mild, 7 moderate and 46 severe) were enrolled. The patients died during study. The baseline NLR, LMR and PNI on Day 1 were comparable among mild, moderate and severe pancreatitis. In patients with severe acute pancreatitis, non survivors had higher LMR on Day 1 (>0.50) compared to survivors. Further, in non survivors the change in serum LMR (day 1-14) and a decrease in serum LMRs (day 1-14) during their hospital course where as the values of NLR and LMR remained same or increased were associated with a poorer prognosis in patients with severe pancreatitis.

Conclusion: The baseline inflammation markers (NLR, LMR, RDW, PNI) do not help in early prediction of severity in patients with acute pancreatitis. However, an increase in serum levels and decrease in serum LMRs and associated with a poorer prognosis in patients with severe pancreatitis.

A Study of Procalcitonin as an Early Predictor of Severity in Acute Pancreatitis

Anil Palliwal, CL Nawal, PD Meena, Aradhana Singh
SMS Medical College, Jaipur

Acute Pancreatitis is an acute inflammation of the pancreas. Acute pancreatitis is an acute inflammatory process ranging clinically from mild discomfort with localized inflammation to severe disease involving remote organ systems. There is a continuum from the development of systemic inflammatory response syndrome, to the onset of multiple organ dysfunction (MODS), which is seen in about 24% of patients with acute pancreatitis and carries with it the highest mortality rate of 36%, and imaging tests showing characteristic findings of acute pancreatitis. Several inflammatory markers are being used routinely in various versions of non-invasive prediction of patients with acute pancreatitis. Among these are the total and differential leukocyte counts, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), interleukin-6, thioredoxin-1, and polymorphonuclear elastase: serum procalcitonin is one of the components to assess the severity of pancreatitis. Procalcitonin is an acute phase reagent that has been extensively investigated as early marker in systemic bacterial infection, sepsis, and multi organ failure. Because severe acute pancreatitis is associated with sepsis, infected pancreatic necrosis, and multi organ failure. Procalcitonin can be used as a useful marker in early diagnosis.

Material: A prospective observational hospital based study conducted on patients of General Medicine with collaboration from Department of Biochemistry and SMS Medical College, Jaipur. Patient who were diagnosed as case of acute pancreatitis on admission were included. Total of 56 cases were included in this study.

Observation: The finding observed are as under:-

1) The mean age of the population was 38.5 ± 11.83 years.
2) Males were more affected than females with a male to female ratio of 1.67:1
3) The majority of the patients belonged to F4 stage (79.6%)
4) Acute pancreatitis was associated with a poorer prognosis in patients with severe pancreatitis.
5) In non survivors the change in serum Procalcitonin (day 1-14) and a decrease in serum Procalcitonin (day 1-14) during their hospital course where as the values of Procalcitonin remained same or increased were associated with a poorer prognosis in patients with severe pancreatitis.

Conclusion: In present, study serum PCT was done in patients diagnosed as acute pancreatitis on basis of Atlanta classification within 48 hours of admission and was found to be increased (value is significant if it is more than 0.5 ng/ml) in 23 patients out of 60, with mean of 1.94±2.4 ng/ml. These 23 patients were later on found to have severe acute pancreatitis.

Platelet Count/Spleen Length Ratio to Predict the Presence of Esophageal Varices in Patients with Cirrhosis

Swamy SM, BK Tripathi
VMMC and SIJ, New Delhi

Esophageal variceal bleeding remains the leading cause of mortality in patients with cirrhosis. Dietary guidelines, upper gastrointestinal screening endoscopy is recommended for all patients with cirrhosis to rule out a varix. However, the usefulness of screening endoscopy in patients with cirrhosis have Esophageal varices. Hence there is a need for non-invasive parameters to predict the presence of esophageal varices. The primary objective of this study was to those with a high probability of having varices. In this study, we aimed to identify the effectiveness of Platelet Count/Spleen Length Ratio as a non-invasive predictor of esophageal varices.

Material: An observational cross-sectional study was conducted including 52 patients with liver cirrhosis without a previous history of upper GI bleeding. Relevant clinical parameters were assessed including complete hemogram, upper GI endoscopy, and ultrasonographic measurement of splenic size. Patients were divided into two groups, one with esophageal varices and the other without esophageal varices. Platelet Count/Spleen Length Ratio was compared between these two groups.

Observation: Out of the study population 65.38% of the patients had Oesophageal varices. The following observations were made in oesophageal variceal group and non-variceal group respectively. Mean splenic length was 156.26 ± 13.64 mm and 126.06 ± 6.40 mm (p<0.001), mean platelet count was 102822 ± 20188/mm3 and 156000 ± 57363 (p<0.001), mean Platelet Length was 672.82 ± 188.06 and 1243.55 ± 307.53 (p<0.001). Platelet Count/Spleen Length Ratio of <926 was found to have a sensitivity of 91% in predicting varices and the specificity was 78%.

Conclusion: Platelet Count/Spleen Length RATIO can be used as a predictor of esophageal varices and also to identify the subset of patients who require endoscopy for the prophylactic management of variceal bleeding. Therefore, to reduce the burden on the endoscopy units, avoiding unnecessary screening endoscopies.

Clinical Profile and Prevalence of H Pylori, IGA-TTG, and Spectrum of Duodenal Abnormalities in Non-Ulcer Dyspepsia

Sreenivasam Mamidi, Naresh Bansal, Anuj Singhal, Pradeep Kumar, Army Hospital (R&R), Delhi

The Rome IV criterion for a diagnosis of NUD is chronic or recurrent epigastric pain within the last 3 months and an onset of symptoms at least 6 months prior to presentation. Clinical Dyspepsia and idiopathic dyspepsia are often used as well. Symptoms include ulcer-like dyspepsia; gastroparetic-like (nausea, early satiety, and post-prandial fullness); and functional abdominal discomfort. Hence, the Rome IV criteria are more stringent compared to the previous criteria. The present data from India as scares in literature. Hence the proposed to be responsible for these symptoms. Although pathogenesis of NUD is not completely known yet. Several mechanisms have been proposed to be responsible for these symptoms. Although, strong evidence of association between H. pylori infection and NUD, Celidal Disease and NUD. Being a tropical country, the prevalence of infections is parasitic co-determination. NUD is low in the present data from India as scares in literature. Hence the present study was planned to decipher the clinical profile, prevalence of H. pylori, IGA TTG, spectrum of duodenal...
Infectious Diseases

Breakthrough covid 19 infections after 2 doses of covid 19 vaccination and comparing severity between hospitalized and non hospitalized in tertiary care hospital

Mohit S, Chandrasekhar HR
Kempegowda Institute of Medical Sciences, Bengaluru

The COVID-19 infection is highly transmissible and spreading globally, including in populations with high vaccination rates. COVID-19 vaccination in India, was started in month of January among both healthcare workers (HCWs) becoming the first to get vaccinated. However, there has been lot debate on the efficacy of the vaccine. This study highlights breakthrough COVID-19 infections among vaccinated HCWs comparing clinical and lab parameter among hospitalized and non hospitalized.

Material: This was a retrospective study conducted using questionnaire assessing COVID-19 like symptoms and confirmed COVID 19 infections among fully vaccinated HCWs (all faculty including nurses, wardboys, professors, post graduate students and interns) of the institute from a period of 4 months from March 2021 to June 2021. The number of infections was also matched with hospital records.

Observation: Out of 36 HCWs, all had received both doses of covidvax vaccine. Males were 18 and females were 18, mean age was found to be 32.17. People with underlying diabetes, hypertension, asthma, obesity, DM, dyspepsia for > 6 months, dyspepsia for > 6 months, and no evidence of underlying malignancy, gastritis, previous gastric ulcers, and pancreatitis. The patients underwent routine blood investigations like haemogram and biochemistry.

Conclusion: The COVID-19 infection is highly transmissible and spreading globally, including in populations with high vaccination rates. COVID-19 vaccination in India, was started in month of January among both healthcare workers (HCWs) becoming the first to get vaccinated. However, there has been lot debate on the efficacy of the vaccine. This study highlights breakthrough COVID-19 infections among vaccinated HCWs comparing clinical and lab parameter among hospitalized and non hospitalized.
Effect of Zinc on Parameters of Severity among Elderly COVID-19 Patients: A Prospective Analysys

Lakshmi Sahai, Rituraj Thakur, Abhijeet Swami
Silchar Medical College and Hospital, Silchar

Since December 2019, an emerging coronavirus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) has been spreading worldwide. Older people and those with comorbidities are more likely to develop severe illness. Vaccines against coronavirus have been developed recently. In India, the two vaccine currently authorized to use are namely Covaxin and Covishield. Both of which require 2 shots few weeks apart for adequate protection. Although COVID antibody test has not been done following vaccination in my subjects, it was observed that those who were vaccinated had one or two doses had less clinical severity compared to non vaccinated patients. In this study, we did a comparative analysis of the laboratory markers of severity in elderly COVID patients who were fully vaccinated, partially vaccinated and non-vaccinated.

Material: This study was conducted with COVID-19 patients in age group more than 65 years for duration of 6 months. Participants were divided in three groups. Fully vaccinated patients received post covid-19 therapy and Group 1 vaccinated with only 1 dose and none vaccinated group. Assessment of inflammatory markers like CRP, Lymphocyte and Ferritin, procalcitonin, RDW and NLR were done in the three groups.

Observation: A total of 52 fully vaccinated, 120 partially vaccinated and 484 non vaccinated patients were included in the study. The serum zinc level of the three groups was 381.61±167.53 µg/ml, 286.77±226.73 µg/ml and 87.44±317.55 µg/ml respectively. The difference was statistically significant(p<0.0001). However, there was no significant difference in terms of RDH, Ferritin, RDW and CRP among the groups with p values of <0.01, <0.001, <0.01 and <0.05 respectively. However, no significant difference was found in terms of LDH, Ferritin, RDW and CRP among the groups although the average values were found to increase from fully vaccinated to partially vaccinated to non-vaccinated groups.

Conclusion: Zinc level was associated with less severity when analysed in terms of laboratory parameters in COVID-19 elderly patients.

Serum Zinc level as a Prognostic Marker in SARS-CoV-2 Pneumonia

Puneet Saxena, Suresh Kumar Yadav, Shivaraj V. Sagare
SMS Medical College and Attached Hospital, Jaipur, Rajasthan

Zinc is one of the essential minerals in the human body. It is known to modulate antimicrobial and antioxidant immune and inflammatory response. Several studies showed association between serum zinc and COVID pneumonia, however evidence regarding COVID-19 disease still unclear. The aim of this study was to determine the clinical significance of serum zinc in COVID-19 pneumonia patients and to establish a correlation with disease severity.

Material: From May 2020 to May 2021, 78 patients aged 18 to 60 years were enrolled in this study. Informed consent was taken. This study was performed to assess the level of fasting serum zinc in COVID-19 pneumonia patients at the time of admission and a comparative analysis was conducted between COVID-19 pneumonia patients and healthy controls.

Observation: Based on measurement results of serum zinc level in COVID-19 pneumonia patient in our hospital, almost all severe cases showed subclinical or clinical zinc deficiency and Mean serum zinc level in COVID pneumonia was 8.09±4.57µg/dl which was significantly lower than control group (p<0.001). The results showed significant association between serum zinc level and development of pneumonia.

Conclusion: Zinc deficiency is a risk factor for development of pneumonia in COVID-19 patient and associated with prolonged hospital stay and mortality. This study suggested that zinc deficiency could be a predictor for a critical illness of COVID-19.

Effect of Convalescent Plasma Therapy in Moderate to Severe COVID-19 Patients

Sidharth Sharma, Manoj Saluja, Prakash Sharma
Govt. Medical College, Kota

Convalescent plasma therapy, a classic adaptive immunotherapy used in the treatment of SARS, MERS, and 2009 H1N1 pandemic with acceptable efficacy and safety in the past. Convalescent plasma therapy was taken into consideration in management of COVID 19 disease during the initial days of pandemic but was withdrawn later due to its doubtful beneficial role. This study aims to explore the beneficial role of convalescent plasma and to determine whether convalescent plasma therapy holds a second chance in treating SARS-CoV-2.

Material: This cross-sectional observational study includes 82 cases of moderate to severely ill COVID 19 patients. Patients were divided into three groups based on the presence or absence of initial eosinopenia among the patients who received convalescent plasma therapy and 41 patients who didn't. Regular monitoring of TLC, P/F ratio in DSS and DHF patients than DF patients. Negative correlation between severity of dengue infection and serum calcium level was found with correlation coefficient of -0.892.

Conclusion: The present study revealed significant negative correlation between Serum calcium level and severity of dengue infection. Therefore, it can be considered to use serum calcium level as a potential biomarker in order to identify severe dengue cases early. This investigation will help in early identification, diagnosis and management of dengue infection but further studies are required to support this.

The triaging of COVID 19 patients is of paramount importance to plan further management. There are several clinical and laboratory parameters that help in categorizing the disease severity, triaging, and prognostication. Little is known about the prognostic significance of eosinopenia in prednis and the severity of COVID 19 among COVID-19 patients was analysed. Two separate groups of patients were included. A retrospective analysis was conducted to describe the association between initial eosinophil counts of the patients and the clinical outcomes. In the first group, the disease severity in terms of clinical characteristics and laboratory investigations were compared in patients of COVID 19 presenting with and without the presence of initial eosinopenia. Commonly used markers for triage namely lymphopenia and neutrophil were compared with the presence of initial eosinopenia among the patients who progressed to moderate and severe disease. In the second group, an analysis of eosinopenia was made among the
patients who succumbed to the illness.

Observation: It was seen that 29.8% of patients with eosinophilia had moderate and severe disease compared to those without eosinophilia where only 10.8% had moderate disease and 4.1% had severe disease. None of the patients with eosinophilia had pneumonia but no lymphopenia had more severe disease compared to patients with lymphopenia but no eosinophilia where 10.8% of the patients had moderate disease and 1.9% had severe disease. The study further showed that none of the 60 years who died of COVID-19, it was found that initial eosinophilia was seen in 86% whereas a high lymphophil showed 25.6% of those who died. Thus, implying that eosinophilia is an important marker of disease severity in COVID-19.

**A Novel Study of Correlation of Lipid Parameters with Clinical Profile, Staging and Onset of Rhino Orbito Cerebral Mucormycosis COVID 19 Pandemic**

Vijay V, Kavya S
Bangalore Medical College and Research Institute, Bangalore

Mucormycosis is an angioinvasive disease caused by mold fungi of the genus Rhizopus, Mucor, India has reported surge in cases of COVID 19 associated Mucormycosis due to the increasing frequency of risk factors like corticosteroid therapy, uncontrolled diabetes, neutropenia and obesity. Studied on 79 patients to analyze the serum lipid parameters with clinical profile, stage of the disease, death, and absolute of patients with COVID associated Mucormycosis. The present study aims to estimate the lipid parameters and correlate the serum lipid parameters with clinical profile, stage of the disease, duration of hospital stay, need for ICU admission, length of hospital stay, treatment satisfaction, and outcome of such patients are not well described in the literature. A National prospective observational study was conducted at a tertiary centre in North India on 50 patients with radiologically and microbiologically proven Mucormycosis.

**Material:** This is a cross sectional study conducted on 103 patients diagnosed with COVID 19 associated mucormycosis admitted to the hospitals attached to BMCRI from July to 2021 to September 2021. Serum fasting lipid profile and other biochemical parameters were determined. The measurement of lipid levels Math clinical, the present study aims to estimate the lipid parameters and correlate the serum lipid parameters with clinical profile, stage of the disease, death, and absolute of patients with COVID associated Mucormycosis patients were obtained.

**Observation:** The age distribution varied from 22yrs to 75yrs of whom majority were males (83.8%). Among patients with neutropenia and fungal infections Candida species were diabetes mellitus (DM) followed by hypertension (HTN) followed by DM and HTN followed by lichenoid Hemangiomas were observed were DM,HTN, and fungal infections. The study showed statistically significant correlation such that severity of mucormycosis increased with progressively worsening lipid parameters. It also showed statistically significant correlation such that patients with increasing TC,LDL, VLDL, TG levels had shorter COVID 19 onset to mucormycosis onset duration.

**Conclusion:** The study showed a positive correlation between serum lipid profile and staging of mucormycosis and negative correlation between lipid levels with duration between onset of COVID 19 to onset of mucormycosis. Hence serum lipid profile can be used as an excellent marker to predict the severity and prognosis of COVID 19 associated Mucormycosis.

**Association of Serum Iron Studies in COVID Associated Mucormycosis with Stage of the Disease**

Chaitra Rao, Madhurmath R
Bangalore Medical College and Research Institute, Bangalore

Mucormycosis (Zygomyces) is a rare and lethal invasive fungal infection, often acute and extremely severe cause of death and ubiquitous fungi belonging to the class Phyzomycetes, subclass Zygomyces, order Mucorrhinales, family Mucoraceae. India has reported surge in cases of post COVID 19 Mucormycosis over the past few months due to the increasing frequency of risk factors like corticosteroid therapy, uncontrolled diabetes, neutropenia and iron overload. Patients with a history of COVID-19 infection are at increased risk of developing fungal infections like Mucormycosis. The emergence of COVID-19 associated Mucormycosis and to correlate the levels of Serum ferritin and iron profile with severity and extent of disease. In this study, 46 COVID 19 associated Mucormycosis were included. Data was collected on demographic details, co morbidities, vaccination status, treatment pattern with remdesivir, oxygen therapy or steroid use, complications of past COVID 19 infection and stage of current Mucormycosis infection. Clinical outcome, laboratory parameters measured by Iron profile of hospital stay days, need for ICU admission, length of hospital stay and presence of diabetic ketoacidosis and mortality. The blood investigations which included were CBC with differential leukocyte count, cPR, FBS, PPRH, HBA1c iron studies and serum ferritin.

**Observation:** The mean age of the subjects was 48.19 with 52 males, 23 females. Among 75 patients with CAM, 90.7% were unvaccinated against COVID-19, 62.7% had oxygen usage and steroid therapy, 44% had use of remdesivir. Most common co morbidity with diabetes mellitus 60% with 20% of patients having DKA. Rhino-orbital-cerebral mucormycosis (Stage 4: 44.6%) was the most common stage of the disease. The mean serum iron (50.37) and TIBC (255.37) were significantly higher in Stage 4 CAM cases compared with less invasive stage 2 CAM cases. Patients with DKA had elevated levels of inflammatory markers LDH (292) DDimer (457) CRP(74.64). Case fatality rate of CAM was 12%.

**Conclusion:** The results of this study revealed significant correlation between the clinical severity of CAM and higher mortality, increased serum iron levels and inflammatory markers in this population of patients. Therefore, patients with elevated serum iron levels are uniquely susceptible to mucormycosis infection, suggesting dysregulated iron metabolism in its pathogenesis.

**Covid-19 Rehabilitation Therapy: A novel strategy to reduce Covid-19 respiratory complications and significantly improve lung function**

Suranjana Basak, Kirti Arora, Ram Yadav
Navi Mumbai Municipal Corporation, Covid-19 DCHC and ICU, Navi Mumbai

COVID-19 pandemic has become a leading cause of morbidity and mortality worldwide since the emergence of novel coronavirus SARS-CoV-2 in December 2019. The patterns of outcome and data from prior coronavirus outbreaks suggest that patients with severe COVID-19 pneumonia are at increased risk of progression to interstitial lung disease and chronic pulmonary vascular disease. We have devised an effective, inexpensive approach for Covid-19 recovering patients to reduce the incidence and severity of these complications.

**Material:** This cross sectional study was conducted across two centres-largest government-run hospital in Airoli, Navi Mumbai from Nov’20 to Feb’21. IEC approval, consent was obtained. 472 patients were enrolled. Demographic, clinical, radiological data was collected.Adults >18yrs who tested Covid-19 RTPCR/Rapid Antigen Positive, HRCTSS of >10, required mechanical ventilation and high flow oxygen requirement and mortality in samples amidst the treatment, and second was the post COVID19 patients’ treatment thorough validated (Crombach’s alpha coefficients= 0.7) questionnaire that evaluated their health and vaccination status, and treatment satisfaction.

**Observation:** We noticed lesser requisite for mechanical ventilation (6.3%; p=0.001), high oxygen flow (5.1%; p=0.001) and no death during Casirivimab and Imdevimab therapy. Meanwhile, non-vaccinated test groups were not on mechanical ventilation and those fully immunized seldom entailed high flow oxygen (test, 6.3%; control, 1.4%). On evaluating overall health, 90.1% of the test samples were healthy and 97.2% were satisfied with the treatment than those in control group.

**Conclusion:** Casirivimab and Imdevimab regimen was clinically beneficial for high risk COVID19 patients than those treated without the antibody cocktail.

**The Impact of Casirivimab-Imdevimab Antibody Cocktail in Patients Amidst and Post COVID 19 Treatment: A Retro-Prospective Comparative Study in India**

Aneesh Puthiyedath Joy, Mohammed Salim Karathuthodi, Abhishek Singh,Vijay V,
IKMS,Alibaug Hospital Perintalhanna, Perintalhanna

Monoclonal antibodies have gained attention in developing countries owing to its benefits portrayed by few clinical trials. However, no studies until now have been undertaken in India.

**Material:** A retro-prospective comparative observational study was conducted in symptomatic COVID19 patients to evaluate the impact of Casirivimab-Imdevimab antibody cocktail in high-risk population. Through an extensive data retrieval for 6 months, 152 samples were documented and sorted into test (Casirivimab and Imdevimab treated patients, n=79) and control (Non- Casirivimab and Imdevimab treated individuals, n=73) subsets. The research had two phases; first, estimation of mechanical ventilation and high flow oxygen requirement and mortality in samples amidst the treatment, and second was the post COVID19 patients’ treatment thorough validated (Crombach’s alpha coefficients= 0.7) questionnaire that evaluated their health and vaccination status, and treatment satisfaction.

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**Conclusion:** Casirivimab and Imdevimab regimen was clinically beneficial for high risk COVID19 patients than those treated without the antibody cocktail.

**Mucormycosis and COVID-19: Risk Factors, Clinical Presentation and Outcome in a Tertiary Care Centre in North India**

Ghayas Ansari A, Hamid Ashraf, Husain S Haider Mehdi,
Jawaharlal Nehru Medical College, Aligarh

A wide range of opportunistic infections have been described in patients with Coronavirus disease 2019 (COVID-19). Aspergillus and Candida have been reported as the main fungal pathogens for co-infection in these patients. Mucormycosis including Rhino-Orobtal-Cerebral Mucormycosis (ROCM) has been increasingly described in patients with COVID-19 disease but the risk factors and outcome of such patients are not well described.

**Material:** This prospective observational study was conducted at a tertiary centre in North India of 50 patients with radiologically and microbiologically proven Mucormycosis.

**Observation:** The included subjects were evaluated for the demographic, the clinical profiles and the outcomes. Frequency(t=50) Percentage Age Below 40 10 20 40 and above 40 80 2 Sexes F21 42 M29 53 Covid19 history positive chest Xray positive 4 8 7 chest Xray negative 21 42 absent 29 58 Diabetes history present 42 84 absent 16 6 Duration of DM 1 month 16 41 month 26 52 30 27 541 39 27 541 9 7 Home oxygen present 17 34 absent 33 60 Sp02 during admission <90 1 2 90 17 8 <95 37 74 9 74 45 17 34 17 34 17 34 4 Data not available 23 46 12 T2L <4400 1 2 4400 to 10900
COVID-19 caused by SARS-CoV-2 leads to myocardial range of organ involvement including liver dysfunction. In view of the pathogenicity, infectivity and the incidence of liver damage, an in-depth study of liver dysfunction in these patients is the need of the hour. In this study, we aimed to assess the abnormalities in patients with COVID-19 and their association with respect to age, sex, severity of disease and clinical features.

Material: This study was a cross-sectional study done at Rajendra Institute of Medical Sciences, Ranchi. A total of 95 patients admitted between 1st to 15th August, 2020 with confirmed positive RT-PCR status were included in this study. Abnormal liver function was defined as elevation of liver enzymes and/or total bilirubin. Detailed clinical examination, lab investigations were undertaken and results were used using SPSS software.

Observation: The median age was 44 years (IQR: 29; Range: 15-82). Out of 95 patients, 61 were males (67%) and 30 were females (33%). 70 patients had abnormal liver function (73.6%); AST, ALT, ALP, total bilirubin was elevated in 58.2%, 57.1%, 20.8%, 8.8% cases respectively. AST and ALT levels between different severity groups was statistically significant (p = 0.038 and p = 0.016). Abnormal liver function was observed in patients with fever (76.7%), myalgia (66.6%), malaise (73.9%), headache (50%), shortness of breath (43.5%), anorexia (100%), loose stools (75%), pain (100%).

Conclusion: SARS-CoV-2 infection was more prevalent in the middle age group population and males. More than two-thirds of patients had abnormal liver function with similar prevalence among males and females. Liver dysfunction was seen more in cases with increasing severity of the disease.

Methylene blue in management of COVID-19

V Patidar, Ashish Sharma, Vijay Garg, Ajay Prakash Tripathi, Saumun Dhaneriya
RD Gardi Medical College, Ujjain

Many novel drugs were used in COVID-19 pandemic to improve outcome. One such molecule is Methylene blue which is a tri cyclic phenothiazine compound approved for the treatment of acquired methemoglobinemia and some other uses US FDA. This molecule was found to inhibit the interaction of COVID19 virus and target cells in dose dependent manner. It was also found to inhibit interaction of virus with host cells, by inhibiting interaction of SARS-CoV2 spike protein and ACE inhibitor receptor interactions.

Material and Methods: A) Aim & Objectives: To evaluate the effect of Nebulised Methylene blue on the clinical course and outcomes of patients with COVID-19 infections.

B) Study design Observational Study

C) Participants 63 COVID19 RT-PCR positive cases divided into three groups of patients were prescribed Methylene Blue nebulization in form of Methylene Blue 0.5 mg via nebulization along with bronchodilators (Labetalol 1.25 mg + Ipratropium 500 mcg) three times a day. Group 1 had Methylene blue in nebulization in form of Methylene Blue 0.5 mg via nebulization along with inhalational steroid Budesonide (1 mg + Ipratropium 1.25 mg) three times a day. Group 3 had neither Methylene Blue nebulization in their treatment.

Observation: 1) Analysis 63 cases were divided in 3 groups of 21 each, descriptive and frequency analysis of cases in groups are shown.

2) In present study it was interpreted that Methylene Blue showed a significant impact on improving the clinical stage of COVID19 disease patients. Methylene Blue had significant role in reducing mortality from COVID-19.

Study Correlating Neutrophil-Lymphocyte Ratio with Clinical Staging in Mucormycosis Patients

Abdul Hassan Wahid, Nagaraja BS, Medha Rao
Bangalore Medical College and Research Institute, Bangalore

Rhino-orbital mucormycosis is an aggressive fungal opportunistic infection of the immune-compromised, debilitated patients. The presence of neutrophilia and lymphopenia in patients affected with mucormycosis have been reported. An important aspect in these cases is to develop the ratio of neutrophil to lymphocyte as a possible indicator for the severity of Rhino-orbital mucormycosis which is clinical staged. As such, this study aims to find out the relationship of the neutrophil-lymphocyte ratio with the clinical staging of Rhino-orbital mucormycosis in COVID19 recovered patients and if such a ratio can help to identify the severity of the opportunistic fungal infection.

Material: This is a Cross-sectional study done on 100 patients who were diagnosed with Mucormycosis based on radiological findings and confirmed by post-COVID19 recovery. The neutrophil-lymphocyte ratio was estimated after obtaining complete blood count of the patient and calculating neutrophil-lymphocyte ratio was estimated after obtaining complete blood count of the patient and calculating neutrophil-lymphocyte ratio.

Conclusion: The study shows that using neutrophil-lymphocyte ratio as a marker of disease severity and progression in patients with Covid-19 infection in a Tertiary Care Centre in Bangalore – A Retrospective Study

Varun Vinayak Prakash Rao
Tamiahs Medical College, Bangalore

The infection caused due to novel coronavirus 2 can cause wide spectrum of disease from asymptomatic mild disease to life threatening infection. The spread inflammation is most likely the cause of the adverse outcomes. There are numerous markers of the infection which are used to identify the risk for severe disease and death. Neutrophil lymphocyte ratio (NLR) is one such marker which is easily available and feasible in all the hospital settings. This study was done to study the NLR as a marker of disease severity and progression, in patients with COVID-19.

Material: This was a retrospective study to determine the utility of NLR as a marker of severity and progression among patients with Covid-19 disease. Medical records of 60 patients admitted with mild to moderate Covid-19 disease were reviewed and relevant data was retrieved. The NLR at admission and 72 hours later was noted. High resolution computerised tomography was done and computerised tomography severity score (CT-SS) was calculated. The outcomes of these patients were noted.

Conclusion: Observation: Mean NLR at admission in mild disease was 3.01 and in moderate disease was 9.2. This difference was found to be statistically significant. It has been seen that NLR had a positive correlation with CT severity scale and had no significant relationship with outcome of the disease.

Utility of Neutrophil-Lymphocyte Ratio (NLR) as an Indicator of Disease Severity and Prognostic Marker among Patients with Covid-19 Infection in a Tertiary Care Centre in Bangalore – A Retrospective Study

Vikas Jha, Alok Soni, Pratik Chhatre, Ruchika Jindal, Ravi Kumar, Saurav Chaturvedi, Varun Vinayak Prakash Rao
Tamiahs Medical College, Bangalore

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Mortality comparison in patients receiving either Remdesivir or Remdesivir plus Baricitinib combination in case of moderate to severe COVID-19 Pneumonia: A retrospective study

Debashish Das, Prabhudheep Pahapadhyay, Debaten Banerjee, Vivekananda Institute of Medical Sciences, Kolkata

Observation: The recent second wave of COVID-19 in India has been accompanied by an increase in the severity of mucormycosis reported in the context of COVID illness. Herein we aim to identify risk factors that may explain the increase in the various forms of mucormycosis.

Material: A retrospective comparative study was done at District Hospital, Pulwama, Srinagar. It is a tertiary care center with a significant number of COVID-19 cases.

Observation: A total of 985 patients was included, among them 58.37% were symptomatic, 24.65% were asymptomatic and 12.6% were having underlying comorbidities. Among symptomatic patients fatigue [74.42% females; 68.35% males], cough [73.02% females; 67.56% males] and fever [73.94% females; 75.77% males] were the most common symptoms. Hypertension [67.67% males; 66.33% females], T2DM [36.36% males; 36.34% females] and COAD [32.66% males; 39.36% females] were the common comorbidities among symptomatic patients. New-onset hyperglycaemia was observed in 0.82% asymptomatic patients. Baricitinib was present above the normal value in 14.60% and 14.43% of patients. Among symptomatic patients fatigue [67.37% males; 67.26% females], hypoxia [66.76% males; 67.65% females] and hyperglycaemia (fasting blood sugar) were the commonest comorbidities.

Conclusion: We conclude that in ralral Rajasthan, any patient who presents with fever, myalgia, hypoglycaemia and multiorgan dysfunction syndrome, a diagnosis of scrub typhus should be suspected.

A Comparison of the Efficacy of Adjuvant Parenteral Methylprednisolone and Dexamethasone in Reducing COVID-19 Disease Severity and Mortality among the Moderate to Critical Patients - A Retrospective Study

Priyadharshini Krishnaswamy, Nagaraja BS, Shubha Vishnu Hegde
Bangalore Medical College and Research Institute, Bangalore

The progression of the severity of COVID-19 caused by SARS-CoV-2 virus is due to overwhelming host immune response called the cytokine storm. Corticosteroids can reduce this storm through their anti-inflammatory action. Thus, preventing the adverse effects and improving the efficacy and side effect profile of the two commonly used corticosteroids- dexamethasone and methylprednisolone against COVID-19 have to be compared, to enable the selection of the appropriate drug with better outcomes. Thus the objective was to compare the efficacy of adjuvant parenteral methylprednisolone and dexamethasone in reducing COVID-19 disease severity and mortality among the moderate to critical patients.

Material: A retrospective comparative study was done at District Hospital, Pulwama, Srinagar. Among 19 patients.

Observation: Both corticosteroids had a significant improvement in the inflammatory markers of serum LDH, D-Dimer and CRP (p<0.01) with a significant improvement in d-Dimer levels in the methylprednisolone group compared to the dexamethasone group (p = 0.04). Methylprednisolone was found to have significant improvement in the oxygen requirement (p=0.01), disease severity (p = 0.015) and radiological changes (p=0.002) compared to dexamethasone. Both corticosteroids were associated with an increase in blood glucose levels post treatment, but no significant difference in the glucose levels between the two groups (p=0.469). No significant difference was seen in the outcomes on comparing the duration of steroids of either group for less than five days with a duration of more than five days.

Conclusion: Parenteral Methylprednisolone is associated with a better improvement in the severity of moderate and severe COVID-19 compared to dexamethasone. The combination of methylprednisolone and remdesivir may reduce mortality in patients with COVID 19 infection. This study aims at comparing the scoring systems qSOFA and NEWS in the setting of COVID-19 infection and its correlation with the final outcome of the illness.

Material: We conducted retrospective study comparing remdesivir and baricitinib-remdesivir combination therapy in hospitalized adults with moderate to severe COVID-19.

Conclusion: Baricitinib and remdesivir was superior to remdesivir alone in reducing 28-day mortality among patients with moderate to severe Covid-19, although this difference was statistically insignificant.

Comparison of Quick Sequential Organ Failure Assessment (qSOFA) and National Early Warning Score (NEWS) in Covid-19 Patients and its Correlation with the Outcome

Aashik YS, Ravi K
Bangalore Medical College and Research Institute, Bangalore

The recent outbreak of COVID 19 is a great threat to public health. Because of limitation of resources, the number of patients that can be monitored and treated in Intensive Care Units is restricted. Hence identifying medical patients at risk of deterioration at the initial stage by means of simple protocols based on physiological parameters is crucial. The qSOFA score was introduced as a rapid bedside clinical score to identify patients with a suspected infection that are at greater risk for a poor outcome. The National Early Warning Score (NEWS) was developed to improve the detection and response to clinical deterioration in patients with acute illness. There is paucity of literature regarding the use of these scores in patients with COVID 19 infection. This study aims at comparing the scoring systems qSOFA and NEWS in the setting of COVID-19 infection and its correlation with the final outcome of the illness.

Material: It is a retrospective study in which patients presenting with COVID 19 infection(diagnosed by RT-PCR testing of nasopharyngeal and oral swabs) between April 2021 to June 2021 were included. Scoring was done using 5-day, 10-day and 15-day mortality after presentation. Predictive performance was expressed as discrimination (AUC).

Conclusion: qSOFA score is more accurate in predicting 5, 10 and 15-day mortality than NEWS score in COVID 19 patients. In resource limited settings it is an inexpensive and simple tool for early identification of high risk COVID 19 patients.
was male and 57.15% were females. HbT [90%, TDM [98.37%] was the most prominent co-morbidity among dead patients. Among the expired patients, all(100%) were having hypertension, CRP≥10 and D-Dimer more than 450 ng/mL and lymphopenia(4%).

Conclusion: This retrospective study provides the characteristics of COVID-19 patients in secondary care hospitals of the Union Territory of J&K and highlights the common clinical features along with common co-morbid risk factors along with the presence of laboratory finding one has to take into consideration while treating a COVID-19 patient at a secondary care hospital.

Study of hba1c and serum ferritin levels in covid 19 associated mucor mycosis
Ramesh Maddimani, Sivarajan H, Ravi K, Sharath S
Bangalore Medical College and Research Institute, Bangalore

India witnessed a huge surge in Covid 19 cases in the 2nd wave. There was also an increased presentation of Mucor mycosis cases associated with Covid 19 illness. Severe COVID-19 is a hyper-ferritinnemic syndrome, but whether Mucor mycosis is associated or not with excess intracellular iron that generates reactive oxygen species resulting in tissue damage. There are many theories presently existing to associate the development of Mucor mycosis in Covid 19 patients. The present study is to evaluate the correlation between hba1c and serum ferritin levels in COVID 19 associated Mucor mycosis and the associated outcome.

Material: It is a prospective observational study. RT-PCR confirmed cases of COVID 19 pneumonia with clinical, microbiological or radiologically confirmed cases of mucor mycosis were selected after obtaining informed consent. Relevant clinical data collected, Serum Hba1c and Ferritin was sent. Data analysis was done using SPSS software.

Observation: Among the 93 patients, 63(69.23%) were male and 30 (33.33%) were females, 10 (10.3%) patients had no comorbidities, 82 (85.5%) patients had diabetes mellitus, 32 (33.8%) patients had hypertension and 30 (32.6%) patients had a history of smoking. Mean Hba1c among the patients was 10.98 %. Mean serum ferritin level was 929.11 ng/dl. Mean serum ferritin was significantly lower among survivors when compared to non survivors (1150.2 ng/dl) (p= 0.034).

Conclusion: Serum ferritin is significantly elevated in COVID-19 associated mucor mycosis (CAMCR) cases. The mean Hba1c of 10.98 % suggests a background of poorly controlled diabetes mellitus along with COVID 19 infection is a risk factor for mucor mycosis. Serum ferritin was significantly lower among survivors when compared to non survivors. Increased serum ferritin can be associated with poor prognosis and mortality in COVID-19 associated mucor mycosis.

Clinical Radiological and Biochemical Profile of Moderate to Severe Covid-19 Pregnant Females and it's Correlation with Clinical Outcome
Vika N, Kayaa ST, Madhumathi R, Vallish Shenoy, Nishanth Paiy
Bangalore Medical College and Research Institute, Bangalore

Since December 2019, severe acute respiratory syndrome corona virus 2 has been recognized as the causal agent of a series of cases of pneumonia originating in Wuhan, China which has been named Corona virus disease 2019 (COVID-19) by WHO. The physiological and mechanical changes associated with pregnancy increase maternal susceptibility to infections in general and is a disease 2019 (COVID-19) by WHO. The physiological and mechanical changes associated with pregnancy increase maternal susceptibility to infections in general and is a state of relative immunosuppression.

Material: 49 pregnant COVID-19 moderate to severe Pneumonia patients classified as per MHPFW, GOI were taken into the study for a period of 3 months at Bowring & Lady Curzon Hospital, Bengaluru, Clinical history, duration of illness, co-morbidities, basic blood investigations and inflammatory markers, were done at the time of admission and co-related with the pregnancy and COVID -19 outcomes.

Observation: Among 49 patients, 15 were in the age group of 20-25 years, 24 in 26-30 years and 12 in 31-41 years. 27 patients (55.1%) recovered whereas 22 patients (44.9%) died. 69.4% had cough and breathlessness as presenting complaint, 59.1% had fever ≥38.6°C, 58.6% had headache in 26.5% and diarrhoea in 26.4% 8.4% had gestational diabetes, 2 had hypothyroidism, 2 had pre eclampsia and 2 had other co-morbidities. Prevalence of hematological changes is multifactorial and included portal hypertension induce sequestration, alteration in bone marrow stimulation factors and increased bone marrow suppression. Anemia of diverse etiology occurs in about 75% of patients of CLD. Causes of anemia in CLD are iron deficiency, hypoplasia, anemia of chronic disease, autoimmune hemolytic anemia, folate acid deficiency, aplastic anemia, and as an effect of an antiviral drug. Alcohol is a widely used drug with side effects that include hematopoiesis suppression.

Material: To assess the clinical and hematological abnormalities in chronic liver disease patients, a cross sectional study was conducted in Shyam Shah Medical college and associated Sanjay Gandhi Memorial Hospital during the period from Jan 2020 to June 2021. About 78 patients will be included in the present study. All the cases included in the study were admitted to the hospital ward evaluated for chronic liver disease and hematological abnormalities.

Observation: In our study, we had 71 male and 7 female patients with an average age of 46.61±12.73 years. About 58.97% of the patients were alcoholics. Abdominal distension (74.36%) and Jaundice (56.41%) were the most common presenting complaints. Pallor was present in 54 (72.5%) cases. Splenomegaly was present in 50 (80.4%) chronic liver patients. All 78 patients had anemia and the most common type of anemia was normocytic normochromic anemia (58.97%).

Conclusion: In this study, we can conclude that, in chronic liver patients, various hematological changes are very common which need to be identified and corrected early to reduce morbidity and mortality. It is important to typify anemia in cirrhosis with respective etiology, characterizing hematological abnormalities may help in better clinical management and help to improve prognosis.

A Clinical Study of Cirrhosis with Special Reference to Thyroid Function
Sabendra Singh Sikarwar, MH Usmani, Karan Sarap Kapur
Shyam Shah Medical College, Rewa

It is known that impaired thyroid function affects liver function and similarly liver disorders, also affect thyroid function. In this study, we looked at the clinical profile of cirrhosis and studied the correlation between cirrhosis and thyroid function.

Material: The study was conducted as an observational cross-sectional study patients with cirrhosis were reporting to the Department of Medicine, SSCM Rewa (M.P.) during the study period of 15 months i.e. from 1st April to 30th June 2021. Etiology based risk factors, duration of liver disease, history pertaining to its etiology was obtained. The severity of liver disease was assessed using the Child-Pugh score. All the patients were then subjected to relevant investigations including serum T3, T4, TSH.

Observation: A total of 100 cases of liver cirrhosis were
enrolled in our study with a mean age of 53.2±12.54 years. We observed a statistically significant association of Child- Pugh Score with T3, T4 as well as TSH (p<0.05). We observed a moderate correlation of Child-Pugh score with T3 levels and negative correlation with T4 level respectively; p<0.05. A weak correlation was observed with T4 (r=0.24±0.05).

Conclusion: In cirrhosis of the liver major subjects showed impaired thyroid functions. Thyroid hormone levels help to assess the severity as well as the course of cirrhosis and among T3, T4, TSH values, Total T3 is considered as a better predictor of severity of cirrhosis.

Correlation Between Carotid Intima Media Thickness and Non-Alcoholic Fatty Liver Disease
Shalini Kumari, YC Porwal, Rohini Gupta
VMMC and Safdarjung Hospital, Bhagalpur

Context: Non-alcoholic fatty liver disease (NAFLD) is considered a potential independent risk factor for cardiovascular disease. Increased carotid intima-media thickness (CIMT) is a sign of early atherosclerosis and is associated to various cardiovascular morbidities. The left and right common carotid artery was examined using PHILIPS HD11XE high-definition ultrasound system equipped with a 10 MHz linear array transducer.

Observation and Results: There was a statistically significant difference between the 2 groups in terms of CIMT with a p value of <0.001. The mean CIMT in the Case group was 0.86 mm while in Control group was 0.52 mm. There was a significant difference between the 3 Grades of NAFLD in terms of CIMT with a p value of <0.001 with maximum CIMT being in Grade 3 of NAFLD. Body Mass Index, Alanine Transaminase, Aspartate Transaminase, Alkaline Phosphatase, Total Cholesterol, Triglycerides, Low Density Lipoprotein were also found to have statistical significant difference between cases and controls. Age, gender, Blood pressure, Fasting Blood Sugar, HbA1c, Hemoglobin, Platelet count, Serum Bilirubin, Total protein and Albumin were found to be statistically insignificantly different between cases and controls.

Conclusion: CIMT is increased in NAFLD patients. Increase in CIMT is significantly correlated with increasing grades of NAFLD. Hence CIMT can be used as screening tests in NAFLD patients to assess cardiovascular risks.

Correlation of Portal Vein Diameter as a Reflection of Portal Hypertension With Clinical and Laboratory Parameters in Chronic Liver Disease
Aman Garg, Kamal Singh, Nidhi bhardwaj, Narinder Kaur
Government Medical College and Hospital, Chandigarh

Material: A hospital based cross sectional observational study was conducted on 114 diagnosed cases of cirrhosis of liver admitted in Navodaya Medical college, Raichur. The inclusion criteria for our study was cases of cirrhosis of liver of patient aged 13 years and above. The exclusion criteria were patients with hepatocellular carcinoma, patients with portal vein thrombosis, patients with previous history of abdominal surgery.

Observation: By applying ROC curve, platelet count to spleen diameter ratio cut off value of 1052 was obtained which give positive and negative predictive values of 81% and 99% respectively. This study also shows that as the ratio decreases, the grade of the varices increases.

Conclusion: This study concludes that presence of oesophageal varices is a common complication in cirrhosis of liver, prevalence is found to be 91.23%. It was observed that as the platelet count to splenic diameter ratio increases, the grade of varices increases. This ratio may be recommended to predict the presence of oesophageal varices and as a surrogate marker where endoscopic facilities are not available.
Haematology

Absolute Neutrophil Count in Cases of Pancytopenia

Mathews N Mathew, Kundan Mishra, Kanwaljeet Singh, Suman Kumar Parmanik

Haematology:

Pancytopenia is a common cause of hematological consultation. Common underlying causes include vitamin deficiency (vitamin B12, folic acid), drugs (hydroxyurea, phenytoin, methotrexate), and bone marrow failure syndrome. Aplastic anemia is one of the rarest hematological diseases and presents as pancytopenia. However, it is the most sinister one and is a hematological emergency that needs urgent medical attention. Absolute neutrophil count (ANC) is a measure of disease severity and is expected to be low in patients with pancytopenia of any cause.

Conclusion: Portional vein diameter had positive correlation with spleen size which is statistically significant in our study. It also observed that portal vein diameter was positively correlated with pancytopenia.

Haematology

Role of Hemoglobin Content of Reticulocyte to Evaluate Anemia in Patients with Malignancy

Gaurav Singh, Sumita Chaudhry, Ashok Kumawat, Garima Chaturvedi, Mudita Garg, Suman Kumar Parmanik

Material:

This observational cross sectional study included 100 patients of age >12 years of all genders with chronic haemolytic anemia and history of multiple blood transfusion. Blood and radiological investigations were done. Clinical, hematological and molecular characteristics were studied.

Conclusion: Ret Hb was found to be positively correlated to serum iron, ferritin and TIBC in diagnosing IDA. At a cut-off value of RET Hb of 27 pg/mL, the diagnosis of IDA could be made at a sensitivity of 93.4% and a specificity of 95.83%. Positive predictive value for Ret Hb was 99% and negative predictive value was 76.6%. RET Hb was found to have best diagnostic accuracy (area under the curve 0.96) on ROC analysis in the differentiation of these two conditions. Micro R was found to be inferior to other parameters (AUC of 0.39) in the differentiation of these two conditions.

Pancytopenia: Etiology and It’s Variables

Rakesh Kumar Suthar N, Raman Sharma, Madhulata, Riya Sharma

Anemia is common in patients with cancer and it’s pathophysiology is complex and multifactorial. Conventional methods (Serum Iron, serum ferritin, TIBC, TSAT) to diagnosing iron deficiency anemia in cancer patients is affected by cancer type, duration, treatment, infection and inflammation. Ret Hb measure the recent functional availability of iron and the correlation well with iron deficient / restricted erythropoiesis, and it is not affected by infection and inflammation related to cancer so it can be useful marker to rapidly rule out iron deficiency in cancer patients.

Material: This is observational longitudinal study and study subjects including all type of diagnosed cancer patients with anemia (Hb<13 gm in males and <12gm in females) with or without treatment. Study duration was 18 month and 200 sample size was taken. Complete blood count (Hb, TLC, platelets, MCV, MCH, MCHC, reticulocyte hemoglobin) were analysed on SYSMEX XN 1800i (Serum Ferritin was estimated using AVANTOR CL-1000i and Serum iron, TIBC, TSAT was run on EBA MANHEIM CHEM 5X machine. Bone marrow examination was done in case of anemia / staging diagnosis provided by Peri’s Prussian blue stain and graded as per criteria laid down by Gale et al.

Conclusion: At a cut off of 28.4 pg, Ret-Hb achieved sensitivity of 96.77 % and specificity of 81.66% with NPV of 99.3% and PPV of 49.2% for iron deficient state in cancer patients. This cut off value rules out iron deficient erythropoiesis, reduces unnecessary iron studies and encourage early treatment of iron deficiency. There is also moderate agreement exist between iron stores of bone marrow and RET-Hb with Kappa 0.411 and p value <0.001.

Conclusion: RET-Hb is better indicator of IDA in cancer patients compared to other conventional methods of diagnosing IDA. This study is a significant contribution between RET-Hb and bone marrow iron stores. In future it is advisable to use Ret-Hb as a predictor of IDA, which is sensitive and specific at different cut off points in routine evaluation in IDA in cancer patients.

Oncology

Clinical Profile of Lung Cancer in Females- A Single Institution Study

Akhil K T, Vivasht Vishwaswaran, Hridya Jayamohan, Asmita Mehta, Kechhalit Pavithran

Sree Narayana Institute of Medical Sciences, Amrita Institute of Medical Sciences, Coimbatore, Tamil Nadu

The global incidence of lung cancer among women is rising. By 2030, lung cancer in women is expected to increase by 43%. The factors thought to predispose
women to lung cancer are exposure second hand smoke, air pollution. Gemcitabine was chosen for the study as it has shown least toxicity, better for palliation and has shown good results in all stages of cancer. The objective was to study the clinical and pathological features of lung cancer in women.

Material: A retrospective review of medical records of women with lung cancer who attended Amrita institute of medical sciences, Kochi, between 2015-2019 was done. Data was collected using our institution’s electronic medical record system. Both charts and clinicopathological features were extracted from the EMR manually. Data was tabulated using Microsoft Excel. Categorical variables were expressed as frequencies and percentages. Observations: Out of the 1683 lung cancer cases seen during 2015-2019, 589 (35.2%) were females. 250 patients for whom complete data was available was included in this study. Majority of the women were above 50 years old (N = 216, 86.4%). The median age of diagnosis was 64 years (range 33-95 years). 14 patients were under the age of 18 years. The most common median duration of symptoms was 8.7 weeks (IQR 4.3 -13). Cough (N=173, 69.2%), dyspnoea (N=117, 46.8%) and chest pain (N=105, 42%) were the most common symptoms. Data regarding the use of cooking medium used (biofuel/LPG) was available only in 107 patients. 15/107 (14%) patients were using biofuels for cooking, 75.2% of them presented in advanced stages (Stage IV N=188). The most common sites of metastasis were bone (N=88, 35.2 %), lung (N= 55, 22%), lymph nodes (N=55, 22%) brain (N= 38, N= 15.2%), liver (N=32, 12.8%) and adrenal gland (N=31, 12.4%). 113 patients had one and 77 patients had multiple metastatic sites. The median duration of presenting symptoms was 8 weeks (IQR 4.3 -13). Right middle lobe N =11 (4.4%), Right Lower lobe N =16 (6.4%), Left upper lobe N =65 (25%) and left lower lobe N =50 (20%) were the commonest sites. The most common histological type was adenocarcinoma (N=224, 89.6%) followed by squamous cell carcinoma (N=22), lymphocyte rich fibroblastic proliferation (N=11, 23.3%) patients with partial response, 11(36.7%) patients after 3 cycles (P<0.001) and in 3 participants (13.6%) serum triglyceride, LDL, HDL, TSH & HbA1c levels.

Platelet to lymphocyte ratio (PLR) >190 (95%CI 7.6-8.83; log rank test p<0.001) was significantly associated with worse progression free survival. Conclusion: Increased levels of NLR (>3) and PLR (>190) have prognostic value to predict progression free survival (P<0.001). In advanced gallbladder carcinoma patients on palliative chemotherapy. NLR and PLR can be used as prognostic markers in advanced gallbladder carcinoma.

Clinical-pathological Profile and 2 Year Relapse Rates of Non-Hodgkin’s Lymphoma in Tertiary Care Center

Sunadh Mallapalli, Ratheesh Kumar, S Puresh, Anuj Singhal, Sarvinder Singh

Army Hospital Research and Referral, New Delhi

The aim and objectives are to study clinical pathological profile of non-Hodgkin lymphoma. Material: This prospective observational study was conducted from Jan 2017 to May 2021. All newly diagnosed patients of NHL were enrolled and received a CHOPR regimen for 4 cycles as per B-cell or T-cell lineage. The data was and analyzed using spss software.

Observation: A total of 30 patients were enrolled and followed up for 2 years. The median age of presentation was 44.6±15.92. Commonest clinical presentation was lymphadenopathy (46%), followed by B symptoms (32%). Commonest clinical sign was lymph node enlargement (52%). The commonest extranodal presentation was hepatomegaly (22%) and splenomegaly (22%). On peripheral smear, monochromic; hyperchromic anemia (12%) was the commonest presentation. CT Scan showed, nodal involvement in 86% with generalised lymphadenopathy (48%) and extranodal involvement was seen in 50%. PET showed nodal involvement in (90%), and extranodal involvement in 70%. PET scan (90%) was a little more sensitive for detecting lymph node involvement over CT scan (86%). On lymph node biopsy, the most common subtype was B cell NHL (84.84%) and the commonest histopathological subtype was diffuse large cell lymphoma. Biopsy from the extranodal site showed B cell NHL in (93.35%). The commonest histopathological subtype was DLBCL (18%). On narrow examination and biopsy, 88% were B cell type and the commonest type was DLBCL (62%). The commonest treatment-related toxicity was febrile neutropenia. In 3 months, 30% were having clinical active disease and PET imaging revealed radiologic disease activity in 32 %. At 12 months, 14% were having clinical disease, and radiologic disease activity in 32%. At 18 months, 5% were having clinical disease, and radiologic disease activity in 14%. At the end of the study period, 78% were in remission, 10% cases in relapse, 6% cases had progressive disease and 6% of cases expired.

Conclusion: This study found 02-year survival post standard chemotherapy in NHL cases was 88%. The relapse rate at 24 months was 14%. The B symptoms were less common and was seen in one-third of cases. The role of PET in diagnosing and follow up was good but it was comparable with CT scan.

Poisoning & Toxicology

Clinical Profile of Patients with Acute Epichlorohydrin Poisoning - An Observational Study

Buddhadeb Majumder, Rabindranath Sahay, Saurabh Kothari

Dr. D Y Patil Medical College, Navi Mumbai

Epichlorohydrin is an organochlorine compound and a epoxide. It is a colourless liquid with a pungent, garlic like odour, moderately soluble in water, but miscible with most polar organic solvents. It is used in the production of glycerol, plastics, epoxy glues and resins, epoxy diluents and elastomers. Epichlorohydrin is a common chemical used in industry and Accidental exposure to Epichlorohydrin can occur in workers in glycerol, plastics, epoxy glues and resins, epoxy diluents and elastomer factories. Aims and Objectives: To study the clinical profile of patients with Acute Epichlorohydrin Poisoning and to identify the frequency and nature of lung involvement.

Materials and Method: 30 patients of age 18 and above with Acute Epichlorohydrin poisoning were included in the study. Hematology and biochemistry, HRCT Chest and chest Xray findings were included in the clinical profile. Description of responses were examined using frequencies and percentages and cross tabulation were done between various subgroups.

Observation and Results: All the patients had acute onset respiratory distress and dry cough. Burning sensation and redness with eyes with watering from nose were present in all the patients. Burning sensation in the throat was present in two third of the patient. Two third of the patients developed bilateral pleural effusion. Out of them 80 % patients show bilateral pleural effusion. Two third of the patients show changes in HRCT Chest. Two third of the patients show pleural effusion in both Chest Xray and HRCT Chest and out of them 80 % patients show bilateral pleural effusion. ARDS can occur in mucosal irritation is the most common presenting feature of patients with ACUTE EPICHLOROHYDRIN POISONING. ARDS along with HRCT chest showing Ground Glass Opacities are common.
common problem in a developing country like India and it is a major public health concern. There have been efforts to find novel tools / markers to assess the prognosis and the use of RDW has been proposed in the OPC cases. A lower RDW can be used as a predictor of outcomes in OPC poisoning. There have been several attempts to find out whether RDW can be used as a predictor of outcome, yet most of these studies so far have been done on a retrospective study. Hence our objective was to evaluate the association of RDW with the outcome of organophosphate poisoning.

**Material:** The study consisted of 115 patients who were admitted to JSS hospital critical care due to consumption of Organophosphorus compounds. Patients were assessed and Blood investigations like Complete hemogram and Serum Cholinesterase levels collected after Informed consent was taken from the kin of the patients. Detailed History about the circumstances of consumption and the type of poison was collected and on arrival vitals were recorded.

**Observation:** The mean age of the patient’s in our study was 36.73 years. Out of the total patients 80% were males and 20% were females. The patients were divided into 3 groups; 1)Discharged without acute complications; 2) Discharged but had complications; 3) Death; With 52% patients in group 1 and 27% patients in group 2 and 20.9% were in group 3. The most common complication in the group 2 was respiratory failure.

RDW as a predictor for outcomes in Organophosphate compound poisoning cases has a Sensitivity of 87.5% and specificity of 51.65% with a diagnostic accuracy of 59.13%. But as an independent predictor of mortality it was not significant.

**Conclusion:** RDW can be used as a predictor of outcomes in Organophosphate compound poisoning cases with as RDW was elevated in cases with complications and death and was found to be significant. But as an independent predictor for mortality, it was not significant.

**Study of Sick Euthyroid Syndrome in Organophosphate Poisoning**

**Indu Yadav**

Jawaharlal Nehru Medical College, Belgaum

Sick euthyroid syndrome is abnormal findings of thyroid function tests that occur among patients with non thyroid illness with reduced level of hormones like T3 (Triiodothyronine) among acute illness of poisoning and can be detected in Blood within 2 hours after acute illness. As the disease progress there is severe manifestation of syndrome associated with hypothyroidism specially with T3 and T4 while, the level of TSH are slightly elevated or are not within normal limits. The present study was carried out to assess the incidence of sick euthyroid syndrome in organophosphate poisoning as well to assess the socio demographic and clinical profile of patients with organophosphate poisoning.

**Material:** This study was carried out at a tertiary care center for period of one year from January to December 2020 in a total of 115 patients of age group 15-60 years admitted in ICU with the history of Organophosphate poisoning. Hemogram and thyroid profile and liver and kidney function of the patients were studied including assessment of gastric aspares.

**Observation:** Out of 74 patients, majority of them were males (62%) in the age group of 21 to 30 years (42%), with organophosphate poisoning. Male patients were followed by carbamazepine (15%). The incidence of sick euthyroid syndrome with organophosphate poisoning was 53%. The mean serum cholinesterase in poisoning was 91±15.3. The factors which are statistically associated with sick euthyroidism were Male (20 to 40 years), low serum cholinesterase, no prior treatment, ECG changes and miotics.

**Conclusion:** Organophosphate poisoning is more common among young males with incidence of sick euthyroid syndrome among these patients was 53%. Pesticide poisoning is more common among young adult males in the age group of 20 to 40 years with the motive of suicidality. The incidence of sick euthyroid syndrome among organophosphate poisoning is quite high. The biochemical investigations in our study shows an elevation in organophosphate poisoning cases. This can be explained as an indicator to assess the severity of poisoning. The serum cholinesterase and thyroid investigation can also be used as prognostic markers to predict the outcome of organophosphate poisoning. Hence, we conclude that biochemical markers and thyroid investigations helps in assessment and prompt treatment of organophosphate poisoning.

**Diabetes-specific Dementia Risk Score (DSDRS) as Predictor of Cognitive Performance of Type 2 Diabetes Patients Presenting at Tertiary Care Centre, Tamaka, Kolar**

Prabhakar K, Tungala Leela Pavan, Sasi Sekhar, Anitha A, Deepthi Manchu

Sri Devji URS Academy of Higher Education and Research, Vijayawada

The type 2 diabetes mellitus (T2DM) specific dementia risk score (DSDRS) was conceived to assess the state of Dementia in older adults with T2DM. Factors associated with T2DM are shown to increase the risk of age-related conditions, which also can increase threat of Dementia. Hence, in the study here, we assess the correlation of DSDRS with frailty, disability, quality of life (QoL) and cognitive assessment of patients with type 2 diabetes mellitus coming to the tertiary care centre.

**Material:** In this study we assessed 286 patients with Type 2 diabetes mellitus to assess the correlation between DSDRS and Mini mental state examination (MMSE), Isaac’s set-test (IST), clock drawing test (CDT), quality of life (SF-36), risk of malnutrition (Mini-Nutritional Assessment or MNA), as well as frailty, Katz’ and Lawton-Brody scores.

**Observation:** Study population mean age was 77.0 ± 5.2 years. In this study DSDRS was seen to have a significant correlation with MMSE test, IST, CDT, SF-36, Katz, Lawton-Brody and Katz, scores, and an increasing number of frailty components. DSDRS was found to be more among frail, pre-frail, and subjects with limited ADL and IADL (P < 0.01). Study population with DSDRS >75th age specific percentiles had lower education, MMSE, IST, SF-36, MNA, Katz, Lawton-Brody, and higher frailty scores. High estimated 10 year dementia risk was associated with ADL and IADL disability, frailty and risk of malnutrition. When evaluating separate components of DSDRS, T2DM-related microvascular complications were related to all outcome measures.

**Conclusion:** The DSDRS is associated with frailty, disability, malnutrition and lower cognitive performance. These findings support that T2DM-related factors have significant burden on functional status, QoL, disability and dementia risk.

**Geriatrics**

**Diabetes-specific Dementia Risk Score (DSDRS) as Predictor of Cognitive Performance of Type 2 Diabetes Patients Presenting at Tertiary Care Centre, Tamaka, Kolar**

Prabhakar K, Tungala Leela Pavan, Sasi Sekhar, Anitha A, Deepthi Manchu

Sri Devji URS Academy of Higher Education and Research, Vijayawada

Hyponatremia prevalence is 22% in the geriatric age group as compared to 4% in the younger age group. Symptomatology of hyponatremia is subtle and is often interpreted as age-related in the geriatric patients. We use various Comprehensive Geriatric Assessment (CGA) parameters to analyze the impact of improvement in serum sodium levels.

**Material:** We utilized four simple CGA parameters, the new Hindi Mental State Examination (HMSE) for assessing the cognition, Barthel index of activities of daily living (ADL) for the level of independence. Timed up and go test (TUG test) for risk of fall evaluation, and handgrip strength (HG) by hand dynamometer for frailty. All parameters were analyzed at admission and at discharge, and their relation with the severity of hyponatremia in 100 geriatric patients (>60 years) was seen. Equal number of hyponatremic geriatric patients were taken, matched for comorbidity, reason for presentation, and age.

**Observation:** Mean age of the study population was 68.1 ± 5.8 years, with a male: female ratio of 3:1. Baseline sodium level in hyponatremia and normonatremia groups were 131.1 ± 7.1 and 135.2 ± 4.9 mmol/L, respectively (P < 0.001). All CGA parameters tested showed lower values among hyponatremic patients compared to normonatremic patients with only ADL (71.6 ± 12.3 vs 76.7 ± 11.5, P = 0.001) and HMSE (23.4 ± 3.1 vs 24.4 ± 2.4, P = 0.01) were statistically significant. All parameters were worse in the severe hyponatremia group (Na <125-130 meq/L) and mild (Na=130-135 meq/L), but significant only for TUG (17.9 ± 3.4 vs 16.4 ± 4.2, P=0.003, higher value being worse) and HMSE (21.1 ± 4.0 vs 22.6 ± 2.8 vs 24.1 ± 2.5, P=0.0007). Improvement in ADL, TUG, and HMSE scores with
serum sodium improvement was significantly higher in the 40- to 59-year-old group (4.8 ± 1.0; 2.2 ± 4.5; and 1.7 ± 2.3 respectively) when compared to the normotensive reference group (4.7 ± 9.0; 1.2 ± 2.0, and 0.7 ± 1.3 respectively, P< 0.05). Although Hb improvement in serum albumin levels was 2.1 g/dl all day compared to non-survivors. Serum albumin is routinely measured in all patients and it is a cheap and easily available test facility in all laboratories.

Prevalence of Osteoporosis among apparently healthy population in a Public Sector Unit in Jharkhand
Kabibar Padhan
NTPC Hospital, Pakri Bahraich Coal Mining Project, Hazaribagh

The aim of the study was to ascertain the prevalence of osteoporosis in a apparently healthy adult population of a Central Public Sector Enterprise (NTPC) located in Jharkhand.

Material: The study population include 132 subject, out of which 99 were male (75%) and 33 were female (25%). Based on clinical history, 3 men and 5 women were excluded from the study as they were already on medication for osteoporosis.

Rest 124 people (6 male & 28 female) were subjected to Bone Densitometry Test by a Portable Bone Densitometer and based on WHO classification of Osteoporosis. The data was studied in 2 age group, >40 and <40 Year. In the below 40 age group, 41 man and 11 female were in the age group of 41-55 and 10 male & 18 female had osteoporosis.

Conclusion: From the study, it was concluded that, irrespective of age, female population have a tendency to have poor bone health than T-Score which is being considered as compared to their counterparts.

Male population in the age group of >40, showed poor bone health as compared to comparatively younger age group (<40) and their risk to develop osteopenia or osteoporosis is quite similar to female population.

This study also depicts the demographic distribution of bone health, it was well to do section of population though can’t be generalized to common mass as the study population is very small in number and needs further study with large population size.

Factors Influencing Non-compliance Towards Prescribed Management among Patients Visiting Out-patient Department at Tertiary Care Settings in North India
Upendra Baitha, Arvind Kumar, Mahad Usman, Amaan Singh, Navdeep Singh
All India institute of Medical Sciences, New Delhi

Introduction: Compliance to medication is an important factor in the success of any treatment. Non-compliance to medicines is associated with severity of disease among patients. The objective of the study was to examine compliance of patients to treatment and investigate reasons for such compliance and to quantify non-adherence to medications. It also would raise awareness about such factors.

Methods: A retrospective study was conducted in 255 patients during 2018-2019. The inclusion criteria was- patients aged >18 years of both sexes and on treatment for the following conditions: systolic hypertension, hypercholesterolemia, diabetes, and hypothyroidism. Non-compliance was assessed using study questionnaire and Chi square test was used to test the significance of variables.

Observation and Results: We observed a compliance of 41.6% among study recruits. The findings of the study were suggestive that the factor’s counsel and patients understanding related issues (DCPUR) 41.6% was found to be higher followed by self-medication habit among patients of both sexes with 39.6%, logistics issues 33%, financial issues 33%, side effects of drugs 24% respectively.

Conclusion: High rate of non-compliance among patients is a matter of concern. Hence a conscious effort is needed to educate the patients and their treating physicians regarding their disease and the importance of compliance to treatment.
HCWs. This also leads to adaptation of new communication strategies among health care workers. The effects of sound will be assessed with help of validated questionnaires incorporated as Google forms and distributed to HCWs.

**Material and Objectives:** To quantify the levels of Occupational Sound exposure in a makeshift COVID-19 hospital. Detrimental effects of occupational noise exposure in a temporary COVID-19 facility among HCWs. Communication strategies adopted by HCWs in a COVID-19 hospital during duties with PPE.

**Methods:** Noise measurements along with Cross-sectional online questionnaire-based study conducted in a population of HCWs in a 1000 bedded COVID-19 hospital in Northern India.

**Observation:** The average sound levels in ICU settings were found out to be 70.82dB Time Weighted Average. Though this was within the acceptable levels of 8hr sound recommendations, the results of the questionnaires indicated that the level of the sound significantly affected the individuals work. The average individual score of the quantitative questionnaire was 78.47 out of a total of 100. This has led to adoption of sign language as an alternative communication method along with individuals increasing the volume of their voice.

**Conclusion:** No previous studies on prevalence of sound related stress among HCWs working in PPE in ad hoc COVID-19 hospital were available. The effects of sound on HCWs will help deciding and formulating policies regarding working conditions and durations for HCWs working with PPEs. The development of new communication strategies will be helpful for future workings in such a makeshift facility.
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M. VISWANATHAN POSTER SESSION

Endocrinology

1. Sellar Lesions - Clinical Manifesto in a Tertiary Care Centre
   Anusha, Warun Kumar, Ramesh, Sangeetha, Velammal Medical College Hospital & Research Institute, Madurai

2. Hypoglycaemic Convulsions: A Rare Presentation of Empty Sella Syndrome
   KR Rohra
   Shankarrao Chavan Govt. Medical College and Hospital, Bhiwandi, Nanded

3. An Archetypical Case of CKD-Mineral Bone Disease with Tertiary Hyperparathyroidism Leading to Diffuse Skeletal Metamorphosis and Multiple Brown Tumors
   Subhabrata Biswal
   All India Institute of Medical Sciences, Raipur

4. Management of T1D by Gallium Dotanote PET-CT Guided Radio Frequency Ablation
   Manjeet
   Mahatma Gandhi Medical College & Hospital, Jaipur

5. A Rare Case of Ectopic Adenoma
   B Kishore Kumar, B Indira, Bhagyavant Mahaveer Jain Hospital, Bengaluru

6. A Rare Case of Fahr’s Syndrome
   Veesam Venkat Sai
   Aarupadai Veedu Medical College and Research Centre, Chennai

7. An Unusual Case of Quadriparesis: Acute Pancreatitis
   Banothu Priyanka, Anu N Gaikwad
   DY Patil Hospital and Research Centre, Pune

8. A Rare Case of Acute Pancreatitis
   B V Pandeet, Vijaya Sarathi HA
   Vydehi Institute of Medical Sciences and Research Centre, Ooty

9. A Rare Case of Cushing’s Syndrome Secondary to Medullary Thyroid Carcinoma (MTC)
   Subhashchandra BJ, Basavangowadappa
   JSS Medical College and Hospital, Mysore

10. Hypokalemic Periodic Paralysis: Rare Presenting Symptom of Graves Disease
    Vishnu Varthan Venkatasalapathy, Naveen Masaraddi, Babdev Meena, Ashok Yadav
    RNT Medical College and Group of Hospitals, Udaipur

11. A Rare Case of Hyperparathyroidism
    Vydehi Naveen
    Vydehi Institute of Medical Sciences and Research Centre, Bangalore

12. A Rare Case of Hyperparathyroidism
    Shashank D, Lokesh S, Jithendra Halambur
    Vydehi Institute of Medical Sciences & Research Centre, Bangalore

Diabetes

1. Significance of Microalbuminuria in Vascular Complications of Diabetic Patients Receiving Oral Hypoglycemia Drugs
   Buragagga Siva, Venkata Bhanu Ashok
   Alluri Sita Rama Raju Academy of Medical Sciences, Eluru

2. Localised Sclerodema with Resistant and Recurrent Ulcer in Diabetes Patient in Uncommon Sites
   Alok Tirkey
   RIMS, Ranchi

3. Hyperosmolor Hyperglycemic State in Post COVID-19 Status following Severe COVID-19 Pneumonia
   Muralidharan R
   Aarupadai Veedu Medical College and Hospital, Chennai

4. Prevalence of NAFLD in Patients of Prediabetes and Diabetes and Its Association with Microvascular Complications
   Rajat Pandey
   Motilal Nehru Medical College, Prayagraj

5. Chronic Inflammatory Demyelinating Polyradiculoneuropathy in Diabetes Mellitus: A Commonly Missed Unique Presentation
   G Vigneshwaran, Sankar Kalairajan, Vivek Paul Benjamin
   Aarupadai Veedu Medical College and Hospital, Rajapalayam

6. Efficacy and Safety of Empagliflozin as Add on in Patients with Type 2 Diabetes Mellitus (DM) Inadequately Controlled on Triple Drug Combination
   Saurav Kumar Soni
   Kathiar Medical College, Kathiar

7. Hyperglycemic Hyperosmolor State Presenting as Seizure
   Selvaraj Kumar M, Asokkumar C
   Trichy SRM Medical College Hospital and Research Centre, Ramanathapuram
Cardiology

1. A Rare Presentation of Cardiac Tamponade Secondary to COVID-19
   Abhi Gokhale
   Dhanalakshmi Srinivasan Medical College and Hospital, Karur

2. Acute Rheumatic Fever Complicating Antiphospholipid Antibody Syndrome
   Sujith S
   Dhanalakshmi Srinivasan Medical College, Perambalur

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   Saranath Baranwal
   MLN Medical College, Sultnagar

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   Aayla Haridas
   MGMCR, Hyderabad

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   Sumit Rakshit
   RG Kar Medical College, Kolkata

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   Vimalesh Patidar, Ashish Sharma, Vijay Garg, Ajay Prakash Tripathi, Himanshu Jain
   RD Gardi Medical College, Ujjain, Dewas

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   Guralra Kartheek Krishna
   Alluri Sitarama Raju Academy of Medical Sciences, Eluru

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   Sai Shirini, Karthik Naidu
   Pinnamaneni Siddhartha Institute of Medical Sciences & RF, Vijayawada

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   Sandeep Ahwarg, Arif Mohd Atal Bihari Vajpayee Government Medical College, Vidisha, M.P.

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    Shivu Bidari, K Shankar, Vivek Benjamin, Aarupadai Veedu Medical College, Pondicherry

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    Prabhu
    State University, Bengaluru

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    Deepak Kumar
    Coimbatore Medical College Hospital, Coimbatore

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    Vijay Balaji K
    MS Ramiah Medical College & Hospital, Bangalore

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    N Patel
    M.L.N. Medical College, Prayagraj

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    Sagar Bagalkot S
    JMI Medical College, Arskire

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    Rakesh Kumar Mallick
    Rajendra Institute of Medical Sciences, Ranchi

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    Pallavi Suryavanshi
    Aarupadai Veedu Medical College & Hospital, Pondicherry

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    Divya Ravindran, Natarajan, Dhananjayan, Chakravartti
    Government Thiruvurar Medical College and Hospital, Thiruvurar

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    Shivaling Niranjan Nisty
    Mahadevappa Rampure Medical College, Kalaburagi

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    Jayesh Choudhary
    MGM Medical College, Indore

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    Nirmal Mangalanandhan
    Myosite Medical College and Research Institute, Thiruvananthapuram

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    Shruti Sinha
    Tata Motors Ltd. Hospital, Jamshedpur

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    Shubhra Saraswat
    Jawaharlal Nehru Medical College, AMU, Aligarh

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    Shreya Singh
    Rajasthan Institute of Medical Sciences, Ranchi

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    Sachin KS, Prabhu
    Bangalore Medical College and Research Institute, Bengaluru

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    Gopikrishnan H
    Government Thiruvurar Medical College, Thiruvurar

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    Vandan Shah, Shailendra Mane
    DY Patil Medical College, Hospital and Research Center, Nadiad, Kheda

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    M.G.M. Medical College, Indore

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    Archit Dahiya, Rajeev Sharma, Piyush Joshi, Abhimanyu Singh, Manas Thakur
    Mahatma Gandhi Medical College and Hospital, Rohtak, Jaipur

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    Piyush Joshi, Rajeev Sharma, Archit Dahiya, Abhimanyu Singh, Tushar Wadhawan
    Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan
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Kaushik Ghosh, Murshidabad Medical College, Berhampur

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Mayur Jadhav, Glenmark Pharmaceuticals Limited, Mumbai

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Md Yashar Aghnan, Katihar Medical College, Katihar

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Ujwal M Anagundi, Anirudh B Gajuri, T Anil Kumar, MS Ramiah Medical College and Hospitals, Gulbarga, Bangalore

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Aastha Kaur Gulati, Katihar Medical College, Katihar

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Rohan Katta, Ajit Joshi, D Y Patil Medical College, Hospital and Research Institute, Bandikui

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Mohammad Safiuddin, Kakatiya Medical College, Warangal

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S Balakrishna, Dhanalakshmi Srinivasan Medical College and Hospital, Chidambaram

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Ragulsen S, G Kuppuswamy Naidu Memorial Hospital, Coimbatore

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Kunnerla Padmini, PSIMS&RF, Guntur

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Penke Prudhvi, Alluri Sitaramaraju Academy of Medical Sciences, Kakinada

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Sreeja Manaswini, Vithavathar Aarupadai Veedu Medical College and Hospital, Puducherry

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T Mounisha Chowdary, ASRAM Medical College and Hospital, Eluru

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Satyavamasi Gadde, Asram Medical College & Hospital, Dowlaiswaram

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Mounik Reddy Tippereddy, Alluri Sitaramaraju College of Medical Science, Vijayawada

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Maitreyee Hazarika, Gauhati Medical College and Hospital, Guwahati

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Souvag Sen, Bishal Chandra Swailka, Debabrata Pulal, Krishnendu Roy, Umakanta Mahapatra, Midnapore Medical College and Hospital, Purulia

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Subhra Sarkar Sen, Midnapore Medical College and Hospital, Kolkata

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Zulqarnain Kepmgewoda Institute of Medical Sciences, Bangalore

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Diana David, Kepmgewoda Institute of Medical Science and Research Centre, Kollam

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Appoorva Mohapalli, Kurnool Medical College, Kurnool

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Rahul Gupta, Nandita Prabhat, R R Singh, Sushma C, Sudha, Balaji, de IAPNeuropath, Noida

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Debabrata Pulai, Sourav Sen, Krishnendu Roy, Umakanta Mahapatra, Kurnool Medical College, Kurnool

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Saritesh Kumar Thakur, Motilal Nehru Medical College, Prayagraj

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Kandagaddala Yasswanth, J.J.M. Medical College, Bethamcherla

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Nainajyoti Jha, Pashaura S Sandhu, Kanwarpreet Singh, Sukhminder Singh, Surinder K Salwan GMC, Amritsar

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Prince Singh, Motilal Nehru Medical College, Prayagraj

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Bhawati Pathak, Gauhati Medical College and Hospital, Guwahati

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Rakesh Kumar, Sri Devaraj Urs Medical College, Kolar

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Yuki Bansal, Anil Kumar Patra, Gauhati Medical College and Hospital, Guwahati

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A Gayathri, R Visva, Ira Chandra Rao, Bujiaiah, Sri Venkateswara Medical College, Tirupathi

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Amogh S Chappalagavi, AA Mutil, Navneet Singh, Shri Krishna Medical College, Muzaffarpur, Hubballi, Bihra

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Sanjay, JNMC, Aligarh Muslim University, Aligarh

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Chirag Gurbani, D.Y. Patil Medical College, Itarsi

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Danish Akhter, Ashok Kumar, Atul Agarwal, Patna Medical College, Patna

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Saksham Kumar Thakur, Shyam Shah Medical College, Rewa

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Sanjay Kumar Samaria, All India Institute of Medical Sciences, Raipur

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Diva, Col Faiz M Ahmad, Armed Forces Medical College, Pune

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Sachin Mane, JMF’s ACPM Medical College, Dhule

34. A Rare Case of Chronic Meningitis and Chronic Venous Thrombosis Presenting with GTCs and B/L SNHL
Satyaajith Devalanka, Rangaraya Medical College, Kadiyam
84. Hashimoto’s Encephalopathy- A Diagnostic Conundrum
Sandyha R
Mysore Medical College and Research Institute, Bengaluru

85. A Rare Case of Generalized Myasthenia Gravis
Mani Kumar
Rajendra Institute of Medical Sciences, Ranchi

86. Rare Presentation of Brain Abscess
Ramya SS
Vidyhi Institute of Medical Sciences, Bangalore

87. A Well Hidden Cause of Paraplegia
Vaibhav Misra
Institute of Medical Sciences, Varanasi

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A Vincent Jayakumar, CT Suresh, Devi V Vardhajar, L Jawahar
Indira Gandhi Government General Hospital and Post Graduate Institute, Puducherry

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Nayan Gupta
M.G.M Medical College, Indore

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Sukriti Arora, CA Jayashankar
Vidyhi Institute of Medical Sciences and Research Centre, New Delhi

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Narayan Dhakal, SK Nanda
Armed Forces Medical College, Pune

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Phani Kumar Chakilam
Aram Medical College, Eluru

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Mandya Institute of Medical Science, Bangalore

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Madhusudan Kumar
Rajendra Institute of Medical Sciences, Ranchi

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Angela Philips
Jehangir Hospital, Pune

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Ishaq M, Kalyan M, Raghu Nandan, Aditya Vedula
Vidyhi Institute of Medical Sciences and Research Centre, Bengaluru

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Sugan Ravichandran
PSG Institute of Medical Sciences and Research, Coimbatore

99. An Interesting Case of Fever with Acute Quadriparesis
Aravind R
PSG IMSR, Chennai

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Chaitra Kolli
Vidyhi Institute of Medical Sciences and Research Centre, Khammam

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1. A Case of Probable Catastrophic APLA Secondary to SLE
AN Divya Dhatrhi
NRI Institute of Medical Sciences, Visakhapatnam

2. A Case of Primary Sjogren’s Syndrome with Overlap Hepatitis now Presenting with Hypokalemic Paralysis
Srinath M Srinivasa
St. Philomena’s Hospital, Bengaluru

3. Clinical Profile of Rheumatoid Arthritis with Special Reference to Pulmonary Manifestations
SweeKriti Adhikari, Dhiraj Das
GMCH, Guwahati

4. A Rare Case of Systemic Lupus Erythematosus with Posterior Reversible Encephalopathy Syndrome
G Sandhya Devi
Aram Medical College, Eluru

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Uppalapati Brunda, KV Seshaliah, I Thamirajr
Alluri Sitarama Raju Academy of Medical Sciences, Eluru

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Mayur Patil
Bharati Vidyapeeth Deemed to be University, Jalgaon, Pune

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Tejeswini KM
JMJ Medical College, Davanagere

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B Srujan Kumar
Kakatiya Medical College, Warangal, Thorrur

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K formulation: Sarkar
Gauhati Medical College and Hospital, Guwahati

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SuperiorKumar Kawale, Vinay Rathore, Vinay Kumar, Jaswanth Dola, Subhhabra Biswal
All India Institute of Medical Sciences, Raipur

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MMHRC Madurai, Trivandrum

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Bhelupa Geetha Nagamani
Kumool Medical College, Kumool

13. Dermatomyositis with Tropical Pyomyositis: A Therapeutic Conundrum
Arnav Kalra, Baxsarar Jateppanavar, Aditya Sudan, Venkatath Pai
All India Institute of Medical Sciences, Rishikesh

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Lohith Kumar Sabbavarapu
Menenakshi Mission Hospital and Research Centre, Chennai

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Ramanath Saravanan Kumar
Menenakshi Mission Hospital and Research Centre, Madurai

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Gullapalli Veera Venkata Siva Ram Krishna
Rangaraya Medical College, Kakinada

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Manoj Sivasamy
Saveetha Medical College and Hospital, Coimbatore

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Abhishek Pratap Singh, Vijay Achali
Patna Medical College and Hospital, Patna

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Fahad Daroo, Deepak Gautam, Abhishek Pandey
Institute of Medical Science, Varanasi

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Geethu Krishna P
Mandya Institute of Medical Sciences, Mandya

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Disha Arora, Deepak Gautam, Abhishek Pandey
Institute of Medical Science, Varanasi

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B Srijuan Kumar
Kakatiya Medical College, Hyderabad

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Shabna MS
Travancore Medicity Medical College, Kollam, Thiruvananthapuram, Kerala

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Shek Ashraf
JNMC, AMU, Aligarh

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S Kawthi
Madras Medical College, Chennai

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Rudshshini Ilangoan
Dhanalakshmi Srinivasan Medical College and Hospital, Tiruchirapalli

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Bharadwaj Ramakrishnan, Guruprasad hindupur
Care Hospitals, Hyderabad

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Achintya Dey
Madras Medical College, Bankura

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Shirish Kumar Gundala
Kakatiya Medical College, Warangal, Thorrur

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Sanddeep D Dulloali
Mysore Medical College and Research Institute, Belgium

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Sudheendra BR
Bangalore Medical College and Research Institute, Shivamogga
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63. Childhood Onset Enthesitis-Related Arthritis Leading to Nephrotic Syndrome Due to Secondary Amyloidosis Complicated by Acute Pulmonary Embolism-The Domino Effect Ankit Kumar Armed Forces Medical College, Pune

64. Multiple Organ Involvement-Is there a Relevant Pathogenetic Link Shanjitha J PSG Institute of Medical Science and Research, Coimbatore

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   Raane Fatima
   Jawaharlal Nehru Medical College, Aligarh

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   Ayesha Anjum, N Raghavaram, A Ayyappa, KV Chalapath Rao
   Alluri Sitaramaraju Academy of Medical Sciences, Hyderabad

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   Neha Sharma
   SMS, Jaipur

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   Daya Jasti
   Pinamneni Siddhartha Institute of Medical Sciences and Research Foundation, Vijayawada

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   Nithya K
   G Kuppuswamy Naidu Memorial Hospital, Chennai

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   Arshdeep Singh
   Government Medical College, Amritsar

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   Rahul Prem, Vinay Rathore, Vinay Kumar, Jaswanth Kumar Dola
   All India Institute of Medical Sciences, Raipur

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   T Gupta, V Garg, R Gupta, D Agrawal, V Malhotra
   SMS Medical College and Hospital, Jaipur

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   C Sandeep, P Sudhakar, M Abdur Rahim, D Srinivasulu
   Kurnool Medical College, Kurnool

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    Melvin C Anto
    Guwahati Medical College and Hospital (GMCH), Guwahati

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    Arshdeep Singh
    Government Medical College, Amritsar

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    V Garg, R Gupta, D Agrawal, V T Gupta,
    Government Medical College, Amritsar

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    Syeda Kousar, Rajesh Khayalapappa
    DY Patil Medical College Hospital and Research Institute, Kolhapur

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    Debanjali Das, Dwijen Das
    Silchar Medical College and Hospital, Silchar

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    Anindya Chowdhury
    Rajendra Institute of Medical Sciences, Ranchi

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    Swathy G
    Tirunelveli Medical College, Tiruvananthapuram

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    Mohit Panchal
    Armed Forced Medical College, Pune

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    Md Amish Shikoh
    RMSI, Ranchi

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    Behera Vineet, Mohanty Amit, Shanmugraj G, Alok Sharma, Khubchandani Shaila, Ananthakrishnan R
    Institute of Naval Medicine, INHS Asvini, Mumbai

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    Anand Chikmath
    Sardar Patel Medical College, Bikaner

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    S Jayapriya, S Vithiavathi, N Seshassayanan, K Sathysagar
    Aarupadai Veedu Medical College & Hospitals, Chengalpattu District

22. A Rare Cause of Pregnancy Related Acute Kidney Injury
    H Sadiqa Nasreen
    Chengalpattu Medical College, Pondicherry

23. Collapsing Glomerulopathy – A Rare Case of IRGN
    Kevin Danie Raja
    Aarupadai Veedu Medical College, Pondicherry

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    Behera Vineet, Singh Arashdeep, Shanmugraj G, Ananthakrishnan R
    INHS Asvini, Mumbai

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    Taniya Gupta
    Narayana Hrudyalaya, Bengaluru

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    Someshwar Gaikwad
    Armed Forced Medical College, Pune

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    MGM Hospital, Aurangabad

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    Melvin C Anto
    Guwahati Medical College and Hospital (GMCH), Guwahati

2. A Rare Case of Tenofovir Induced Fanconi’s Syndrome in a PLHIV
    S Rajendra
    Babasaheb Ambedkar Memorial Central Railway Hospital, Mumbai

3. Rheumatic Manifestation in HIV Patients
    Vivek Kumar Seth
    Motilal Nehru Medical College, Prayagraj

4. Estimation of Hematological Profile of HIV Patients on ART in Vindhyay Region with Special Emphasis on CD4 Count
    Ram Chandra Patel
    SSMA, Rewa, MP

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    ABVIMS and RML Hospital, New Delhi

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    Pramod Bhanage, SK Issar, Vaibhav Chandapse
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    RNT Medical College, Bangalore

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    Hegde S, Madappa N, Bhaskarathchal S
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    Madras Medical College, Tirunelveli

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    Vaishnavi Nair, T Geetha, G Bharathiraja
    Coimbatore Medical College, Trivandrum

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    Bangalore Medical College and Research Institute, Bangalore
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   Akshay Murthy MR
   JMJ Medical College, Davangere

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   Manashi Barman
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   C Lipika
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    Tushar Haragwai
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    Vikas Verma
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    Gayathri P, Sivakumar K
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    Pt BDS PGIMS Rohtak

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   Pranjal Singh, Manoj Mathur, Poonam Gupta
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   Suraj Adhikari, Mona Dhakal
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   Sahana G V
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Dudekula Sai Babba
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Santosh Hazare, Kruthik Govit, Aditi Rao
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Naveen Krishna
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SMS Medical College, Jaipur, Jaipur

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Naman Shukla
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Geetha J, Niranjan
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Moirangthem Bikram Singh
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Amar Kumar Armit
Institute of Medical Sciences, BHU, Varanasi

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Ashdeep Singh
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Shree Datta H R
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Pravin MB  
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Aswin Raj, Sudharshana, M. Gopalakrishnan pillai, Dipu TS, Merlin  
Amrita Institute of Medical Science, Emakulam, Kochi

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Shazia Durduma, Umair Shamsul Hoda  
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Yogendra Singh Gond  
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Geetanjali Puvvada, Yosadamma Pokuru  
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D. Reddy, C. Chandramouli  
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Sunit Siddar, Swasthi S. Kumar, Gaurav Gupta, Upendra Baithe, Ashitha Biswas  
All India Institute of Medical Sciences, Kolkata

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Naga Bhavani Krishna Talasila  
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Pooja P Jamadar, Nirmal Kumar Sharma, Veeresh V U  
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Anu Tyagi  
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Utkarsh Kumar, M. Mahesh  
JSM Academy of Higher Education, Mysore

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Rayakan Mahajan  
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Mysore Medical College and Research Institute, Bangalore

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Korupolu Pooja Yamini Devi, V.A. Kothiwale  
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C Mahabala, R S S Upadhyaya, R Anand, T Lakshmineskha  
Department of Medicine, Kasturba Medical College, Mangalore, Manipal Academy of Higher Education, Manipal, Mangalore, India

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Janardhana Naik Ch  
Government General Hospital Kasaragod, Kasaragod

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Bangalore Medical College and Research Institute, Hoskote

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Durga S, Anusuya M, Sharmila Devi R  
Madras Medical College, Tiruppur

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Vojjala Nishanth, Rekha S patil  
JN Medical College (KLE Hospital), Belagavi

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Shimpy Priya  
Rajendra Institute of Medical Sciences, Dhanbad

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Siddesh N  
Bangalore Medical College and Research Institute, Bengaluru Urban

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J Amarendra  
Sanad Pathal Medical College, Bikaner

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Hemant Mahur, Devender Sukhwal  
RNT Medical College, Udaipur, Bhiwadi
Haematology

   NRI Institute of Medical Sciences, Mysore

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   Allli Siratama Raju Academy of Medical Sciences, Eluru

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   Meenakshi Mission Hospital and Research Centre, Madurai, Trichy

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    Rasha Haneefa C, Siddarth, Ayush Bansal, Sudhir Mehta
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    Meenakshi Mission Hospital and Research Centre, Madurai, Trichy

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    Ekash Pillay, Natarajan, N. Raghunath, S. Ramakrishnan
    S.V. Yedde Institute of Medical Sciences, Mysore

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    V.S. Supraja, S. R. Jairaj, S. R. Jairaj
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    Ekash Pillay, Natarajan, N. Raghunath, S. Ramakrishnan
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    Bharat R
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    Government Thiruvarur Medical College and Hospital, Thiruvarur

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    Nikhi M Rao, Shridevi Medical College and Research Hospital, Nallur

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    Nidhi M. Rao
    Shridevi Medical College and Research Hospital, Tumkur

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    Shubham Garg
    MGM Medical College, Indore

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    Niraliben Chaudhary, Dr. D. Y. Patil Medical College and Hospital, Chhindwara

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    Keshav Garg, K. Sankar, Vivek Benjamin
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    Keshav Garg, K. Sankar, Vivek Benjamin
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    Rashid KK
    JNMMCH AMU Aligarh, Aligarh

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    Hemavarthini, Nalini Kumaravelu
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    Kandula Manaswini, Guruprasad Hindupur
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    Prashanthi Seetha VSR, Rama Mishra R, Jayashankar Chinmappa Anjanappa, Sudhir L, Fareeha Afreen
    Vidyasagar Institute of Medical Sciences, Bangalore

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    Sandeep D Paroth
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    Priyanka Khatri, Bhawani Singh Rathore, Vijay Kumar Tunwal, Narendra Kumar Gahlot, SPMCC, Bikaner

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    P. S. Nazneen
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    D.Y. Patil Medical College and Hospital, Pune

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    Rupal Choudhary
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    Shubham Gupta
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    Kundan Mishra
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    Vineela M
    Army Hospital R&R, Delhi

44. Autoimmune Bicteyrna in a Patient With Extrapulmonary Tuberculosis- A Case Report
    Aniket Bhattacharjee, Siddharth Soumyadarsan Pattnaik
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1. A Rare Case of Multiple Myeloma with Myelomatous Pleural Effusion Bhavana Nuthalapati St. Philomena's Hospital, Bengaluru

2. A Comparative Study of Efficacy and Safety of Gabapentin and Amitriptyline for Treatment of Neuropathic Pain in Cancer Patients Attending Palliative Care Centre Manish Khandelwal SMS Medical College, Jaipur

3. A Study to Assess Prevalence of Depression and Anxiety and their Associated Factors in Patients Attending Palliative Care Centre Manish Khandelwal SMS Medical College, Jaipur

4. Cerebral Hemorrhagic Metastasis: Fatal Manifestation of Malignant Melanoma Monika Jha, Ramdayal Singh, Gunjan Kumar PMCH, Patna

5. A Rare Case of Langerhans Cell Histiocytosis B Sharan Prakash, Rama Mishra R, Shashidhar V Karpurmath, Sudhir L, Aditya Nadeja Vydehi Institute of Medical Sciences, Bangalore

6. Acute Pancreatitis as a Rare Presentation of Multiple Myeloma-A Case Report Himanshu Shekhar Rajendra Institute of Medical Science, Ranchi

7. A Rare Variant of Non-Hodgkin Lymphoma Sandesh Modi JIM Davangere, Davangere

8. Bortezomib Therapy induced Guillain-Barré Syndrome in Patients of Multiple Myeloma:A Case Report Vimukta Pradhan Rajendra Institute of Medical Science, Ranchi

9. A Rare Cause of Ischemic Stroke: Acute Promyelocytic Leukemia Akhil Agarwal Care Hospital, Karimnagar

10. A Case of Ewing's Sarcoma with Unusual Presentation Nilesh Patil, Aman M Naikwadi, Noel Gomes, Mrummayee Sonawane. SMBIT IMS and RC, Nandi Hills, Dhamangaon, Igapturi, Nashik

11. A Case of Paraneoplastic Nephrotic Syndrome in a Patient with Ovarian Carcinoma Raina Deshlahe ILE, JNMC, Belagavi, Durg

12. An Unusual Case of Chronic Cough and Shoulder Pain N.S.S. Aranya Dr. DY Patil Medical College and Hospital, Pune

13. Non Hodgkins Lymphoma Presenting as Unilateral Facial Palsy Siddharth G R Mysore Medical College, Mysore

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15. An Unusual Presentation of Acute Promyelocytic Leukemia in a Middle-Aged Male Mimicking as Dengue Fever Prateek Harsh D.Y. Patil Medical College and Hospital, Pune

16. Multiple Myeloma PS Ranjith Kumaran, Vikram Vike D.Y. Patil Medical College and Hospital, Pune

17. An Interesting Case of Pericardial Effusion Nirali Thakkar, BhumiKa Vaishnav D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune

18. A Rare Case of Iliac Fossa Pain Simranbir Bhullar Dr D Y Patil Medical College, Pune

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20. A Rare Presentation of Classic Hodgkin's Lymphoma Appamagari Prudhivi Raj Reddy Vydehi Institute of Medical Science’s and Research Centre, Rangareddy


22. Paraneoplastic Manifestation of Squamous Cell Cancer of the Thyroid Gland Anusha Sharma P S, Ranjith J, Murali Mohan B V, Subramanian Kannan, Vivek Shetty, Nidhi Tandon Narayana Hrudayalaya, Bangalore

23. Primary Intracranial SCC of Brainstem Bikash Shrestha Armed Forces Medical College, Pune

24. Malignant Pleural and Pericardial Effusion – Rare Presentation of Epithelioid Angiosarcoma in Young Female Ajay Kumar Armed Forces Medical College, Pune

Poisoning & Toxicology

1. Managing Indoxacarb Poisoning - A Rare Presentation MD Ruhi Tabassum NRI Institute of Medical Sciences, Visakhapatnam

2. Cerebro Vascular Accident in a Case of Post Viper Bite Debapratim Ganguly Midnapore Medical College and Hospital, Kolkata

3. Serum CPK Levels as a Prognostic Indicator in Organophosphorous Poisoning Keshlaya Kumari SMS Medical College, Jaipur

4. Heart ache and Paralysis: An Unusual Bee Sting Presentation Anish Garg Government Medical College and Hospital, Sector 32, Chandigarh, Mohali

5. A Unique Case of Ischemic Stroke After Bee Sting Vijayalakshmi Mallya B Jaya Jagadguru Murugharajendr Medical College, Davanagere, Mubidri

6. A Case of Hydro pneumothorax in a Patient with Kerosene Ingestion Poisoning Ajmeera Rajkumar Kakatiya Medical College, Mahabubabad

7. A Rare Case of Acute Disseminated Encephalitis – Abruin Poisoning, Kamatham Bhaskara Raju Namratha Dhanalakshi Srinivasan Medical College and Hospital, Perambalur, Tamilnadu

8. Cryptostegia Grandiflora (Rubber-Vine): A Rare Cardiac Glycoside Poisoning Vipul Swami, Purneet Saxena, Suresh Yadav, Chandan Ku Dash, Shivraj Hadimani SMS Medical College, Jaipur, Rajasthan, Jaipur

9. A Case Series on Clinical Profile of Patients Presenting with Inhalational Exposure to Organophosphate. Tilottama Parate, Kavyasree S IGGMCH, NAGPUR, Nagpur, Pathanamthitta

10. Rare Presentation of Plant Alkaloid Poisoning – Methaemoglobinemia and Rhabdomyolysis Anis Fathima R Tirunelveli Medical College, Tirupathur

11. An Unusual Case Report-Zinc Phosphide Poisoning:Reversible Myocardial Injury & PTE Jazeela Ashraf Aditya Hospital, Hyderabad, Ernakulam, Telengana

12. Intermediate Syndrome in a Case of Organophosphate Poisoning in a Teenager Syamantak Chakraborty KPC Medical College and Hospital, Kolkata, Kalna

13. Multiple Bee Sting Envenomation Induced AKI/Rhabdomyolysis/Diffuse Alveolar Haemorrhage R Kulothungan, Krishna Kumar Karpaga Vinayaga Institute of Medical Science and Research Centre, Chinnakolambakkam, Chengalpattu

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17. An Interesting Case of Diabetic Ketoacidosis
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2. Pattern of Anemia in Elderly Population at a Tertiary Care Centre in Northern India
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Other Specialities

1. Role of Inflammatory Marker IL6, D Dimer and Serum Ferritin in the Prognosis of Covid 19
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2. From Therapeutic to Lethal Dosage - a Rare Case of Acute Methotrexate Toxicity Due to Injudicious Self-Administration
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3. Clinical Outcomes in COVID-19 Patients with Existing Comorbidities: a Retrospective Analysis
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7. Multi-Organ Injuries Due to a Lightning Strike: A Rare Case Report
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9. Hypokalemic Periodic Paralysis: A Case Report
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11. BMP4 Gene Mutation in Congenital Bilateral Anophthalmia – A Rare Case Report
Sumeet Kumar
Mahatma Gandhi Memorial Medical College, Indore

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ARTICLE WITHDRAWAL

Dr. J.C. Patel and Dr. B.C. Mehta Best Papers Award 2021

1st Prize for Best Original Article entitled – Prevalence and Clinical Correlates of Myositis Specific Autoantibodies in Idiopathic Immune-Mediated Inflammatory Myositis - Results from a Multicentric Cohort (MyoIN) from India - Liza Rajasekhar1, Vineeta Shobha2, Anitha Narasimhan3, Vasudha Bhat4, SN Amin5, Rammath Misra6 - 1Professor, Department of Clinical Immunology and Rheumatology, Nizam’s Institute of Medical Sciences, Hyderabad, Telangana; 2Professor, Department of Clinical immunology and Rheumatology, St John’s Medical College Hospital, Bangalore, Karnataka; 3Research Co-ordinator, Department of Clinical immunology and Rheumatology, Nizam’s Institute of Medical Sciences, Hyderabad, Telangana; 4Research Fellow, Department of Clinical Immunology and Rheumatology, St John’s Medical College Hospital, Bangalore, Karnataka; 5Consultant, Rheumatic Disease Clinic Mumbai, Mumbai, Maharashtra; 6Professor and Head Clinical Immunology and Rheumatology Kalinga Institute of Medical Sciences, Bhubaneswar, Orissa - J Assoc Physicians India 2021; 69(1):36-40.

2nd Prize for Best Original Article entitled “Study of Pulmonary Arterial Hypertension in Patients of Chronic Kidney Disease Stage IV and V - Atul Mann1, Geeta Kampani2, Sandeep Bansal3, Sunil Ranga4 - 1Resident Doctor, Department of General Medicine, 2Consultant and Professor, Department of General Medicine, 3Consultant & Professor, Department of Cardiology, 4Consultant & Professor, Department of Pathology, VMMC & Safdarjung Hospital, New Delhi - J Assoc Physicians India 2021; 68(10):33-38.

1st Prize for Best Case Report entitled - “Refractory Autoimmune Hematological Presentations of Undiagnosed Tuberculosis - Parameswaran Anoop1, Channappa N Patil1, Rajeeva Moger2, Swarnav Shivalakumar3, Rohan K Aurangabadwala4, Ravindra Mehta4 - 1Departments of Hemato-Oncology, 2Internal Medicine, 3Histopathology, 4Pulmonology, Apollo Hospitals, Bangalore, Karnataka - J Assoc Physicians India 2021; 69(9):86-88.

2nd Prize for Best Case Report entitled - “Deprescribing for Better Patient Outcomes in Chronic LongTerm Care and Role of Clinical Pharmacological Review” - Shambo Samrat Samajdar1, Shatavisa Mukherjee1, Santanu Kumar Tripathi1, Jyotirmoy Pal2, Shashank Joshi1 - 1Department of Clinical and Experimental Pharmacology, School of Tropical Medicine, Kolkata, West Bengal; 2Department of Medicine, RG Kar Medical College and Hospital, Kolkata, West Bengal; 3Dean, Indian College of Physicians - J Assoc Physicians India 2021; 69(11):90-91.

1st Prize for Best Correspondence entitled - Second Episode of Fever as a Sentinel Event in Covid 19 a Retrospective and Prospective Observational Study - Dhiraj Kumar1, Janvi Lalchandani2, Balakrishna Adsul3, Smita Chavan4, Maharudra Kumbhar5, Vaishnavi Kaimaparambhi6, Sheeba Chandralekha2, Anjali Jha2, Omshree Gude3, Shefali Kesharwani3, Saba Shah3, Omkar Nayak3, Sumit Singh3, Harsha Vachhani4, Rashmit Valvi2 - 1Head of Unit, 2Resident Medical Officer, 3Dean, 4Assistant Dean, 5Officer on Special Duty, 6Senior Resident Medical Officer, Seven Hills Hospital, Mumbai, Maharashtra - J Assoc Physicians India 2021; 69(7):91.

2nd Prize for Best Correspondence entitled “Personal Protective Equipment (PPE) use is Associated with Physical and Neurological Dysfunction Among Health Care Workers– Survey Report During the Covid-19 Pandemic - Manali Patel1, Raja Pramanik2, Amol Patel3 - 1Consultant, Critical Care Medicine, Medeor Hospital-VPS healthcare New Delhi; 2Assistant Professor, Department of Medical Oncology, Dr. BRA-Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi; 3Assistant Professor, INHS, Asvini, Mumbai – J Assoc Physicians India 2021; 69(6):86-88.
ELECTIONS OF API, ICP AND PRF

(Full details circular No. 1 & 2/2022)

Election for Governing Body of API, Faculty Council of ICP and Board of PRF are announced for following posts:

**Governing Body of API:**
- President-Elect – One; Vice President – One; Hon. Treasurer - One; Elected Members – Six and Zonal members – Nine.

**Faculty Council of ICP:**
- Dean-Elect – One; Vice Dean – One and Elected Members – 4 posts.

**Board of PRF**
- Board members – Two

Separate nominations must be submitted for each post.

**Requirements for eligibility contest of election to the Governing Body of API**

1. **President Elect:** To contest for the post of President Elect the candidate should be a life member of API for at least 10 years and have completed at least two full terms of 3 years each in any elected position in the Governing Body.

2. **Vice President:** To contest for the post of Vice President the candidate should be a life member of API for at least 5 years and should have completed at least one continuous full term of 3 years in any elected position in the Governing Body.

3. **Hon. Treasurer; Governing Body Member and Zonal Member:** To contest for the post of Hon. Treasurer; Member of the Governing Body and Zonal Member, continuous membership of the Association of at least 3 years is mandatory.

**Requirements for eligibility contest of election to Board of PRF**

**Board Member:** A Member of API for at least 10 years with research experience and having 5 research publications in peer reviewed indexed journals.

The members contesting for the PRF election must attach copies of the Research Papers as mentioned above is mandatory.

Nominations shall be made on prescribed forms stating the office for which nominations are filled. The nominations for API/PRF posts shall be proposed by one valid member and seconded by another valid member of API and duly signed by them and shall also be signed by the candidate signifying his/her willingness to stand for election and serve on the Governing Body if elected.

**Requirements for eligibility for the contests of election to ICP**

- **Dean Elect:**
  i. A member of API for at least 15 years and  
  ii. A Founder Fellow or a Fellow of the College of 7 year standing and  
  iii. Any person who has held the position of President/Secretary of API or served as Vice Dean for one full term or elected member of the Faculty Council for one term.

- **Vice – Dean:**
  i. A member of API for at least 12 years and  
  ii. A Founder Fellow or a Fellow of the College of 5 year standing and  
  iii. Any person who has held the position of Secretary of API or has been a Jt Secretary from HQ for one full term or a member of the Faculty Council.

**Elected Members:**
- A member of API for at least 10 years and a Founder Fellow or a Fellow of the college of 3 year standing.

Nominations shall be made on prescribed forms stating the office for which nominations are filled. The nominations for ICP posts shall be proposed by one valid Founder Fellow/Fellow and seconded by another valid Founder Fellow/Fellow of ICP and duly signed by them and shall also be signed by the candidate signifying his/her willingness to stand for election and serve on the Faculty Council of ICP if elected.

A member shall not contest simultaneously for more than one post (i.e President-Elect, Vice-President, Hon. Treasurer, Member of the Governing Body and Zonal Member) (Dean-Elect; Vice Dean and Elected Members of Faculty Council) and also (Board members of PRF) Post means not only an office-bearer but also member of the Governing Body of API or Faculty Council of ICP or Board of PRF.

Every member is supplied with a nomination form. The nomination form completed in all respects should reach the API Office not later than 31st May 2022. For every post on the Governing Body / Faculty Council / Board of PRF, the nomination must be accompanied by a sum of Rs. 2950/- (Rupees two thousand five hundred only) non-refundable in the form of Demand Draft payable at Mumbai. The nomination paper NOT accompanied by the Bank Draft of Rs. 2,950/- will be deemed invalid.

**Important**

Canvassing in any form should not be done by the candidate for the election. Instead, they are requested to send a short biodata NOT MORE THAN 200 words along with the nomination paper which will be printed and circulated along with the ballot paper. Excess of bio-data beyond the first two hundred words shall be deleted. Canvassing in any form or in favour of the candidate shall not be permitted.

THE CANDIDATE WILL HAVE TO CERTIFY AND SIGN THAT THE INFORMATION PROVIDED IN HIS/HER BIODATA IS CORRECT.

The results will be declared at the end of counting of votes and announced in the subsequent issue of JAPI. The report will be placed before the Governing Body for intimation.

**DEAD LINES OF ELECTION PROCEDURE**

<table>
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<tr>
<th>Event</th>
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<tr>
<td>Last date to receive the nomination at API Office</td>
<td>31st May 2022</td>
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<tr>
<td>Last date for withdrawal</td>
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