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### Indian College of Physicians

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- **Dean**: Rohini Handa (New Delhi) (2018)
- **Dean Elect**: G Narasimulu (Hyderabad) (2018)

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- **Jt. Secretary (Dean’s place)**: AP Misra (New Delhi)
- **Hon. Treasurer**: Charu K Jani (Mumbai) (2020)

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  - Y Satyanarayana Raju (Hyderabad) (2018)
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  - Sandhya Kamath (Mumbai)

### Physicians Research Foundation

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- **Hon. General Secretary**: Mangesh Tiwaskar (Mumbai) (2019)
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- **Members**
  - Soumitra Ghosh (Kolkata) (2018)
  - AK Mukherjee (Kolkata) (2018)

- **Invited Members**
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  - Milind Y Nadkar (Mumbai)

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Dear Esteemed Members of API,

Happy New Year to all of you.

I am delighted to forward this conference issue of APICON 2018. The scientific programme will commence with a CME programme for postgraduates and delegates. Dr. Rohini Handa, Dean Indian College of Physicians has drawn an excellent scientific programme catering to all the Delegates attending the conference. President-Elect Dr. Pritam Gupta has done a marvellous job by having Scientific programme based on theme “Dawn of a New Era in Medicine”. I am sure you will benefit by attending the same in large numbers.

This abstract issue highlights the CME and Scientific Programme of APICON 2018 to be held at Bengaluru from 22nd – 25th February, 2018. 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 2018.

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 a pleasant stay and look forward to interacting with you at the conference.
Hon. Gen. Secretary’s Message

Mangesh Tiwaskar
Hon. General Secretary

It gives me great pleasure to forward this issue of JAPI with abstracts of free papers submitted for APICON 2018. This year the numbers of papers submitted speak volumes about the interest shown by the young physicians across the country, especially from medical colleges, hospitals and medical research centers in the country. It also highlights the importance given to research papers and paper presentations in APICONs. All delegates will surely be delighted to read these abstracts before the APICON 2018 at Bengaluru.

Also the scientific program is printed. JAPI February 2018 issue will reach to members before they start for the APICON 2018, Bengaluru. This will help the delegates to plan in advance for sessions of their interest. This happened due to the perseverance and thoughtfulness of President Elect – Dr. Pritam Gupta and Dean ICP Dr. Rohini Handa and Editor-in-chief Prof. Dr. Milind Y. Nadkar. They jointly have spread scientific feast before you all. I am sure you will enjoy this scientific feast.

As Hon. General Secretary of our esteemed organization, I had a rich fulfilling experience, I had a great opportunity to 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.

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. BR Bansode, Dr. Pritam Gupta, Dr. Rohini Handa, Dr. YP Munjal; Dr.Siddharth Shah; Dr. V. Narsimhalu, Dr. Sandhya Kamath, Prof. Dr. Milind Y. Nadkar, Dr. P. Chandrasekhara and all my friends for all the selfless help and guidance.

Warm regards and wishing you all Very Happy 2018
Dear colleagues

Greetings and Happy New Year!

It is a great pleasure and honor to welcome you all to the 73rd Annual Conference of Association of Physicians of India “APICON-2018” to be held at IT city, Bengaluru from 22nd to 25th Feb 2018.

In the modern era, the disease profile is changing, lot of new developments in the diagnosis and management are emerging & due to genetic mutation the disease pattern is modifying. In view of that the theme of scientific program has been kept as “DAWN OF A NEW ERA IN MEDICINE”. The scientific committee had worked hard to prepare an excellent scientific program for this conference.

In “APICON-2018” an eminent national faculty who are specialised in their respective fields are participating to share their views and experience. Twenty international luminaries from various countries have also given their consent to participate this mega event.

Workshops are being organised for the postgraduate students and internists so that they can develop a practical skill which is going to help them in the management of patients. There are recent advances, updates, controversies, plenary sessions, symposia and medical quiz, which will be discussed during this conference. The session like medical ethics, prevention of litigation in medical practice, lipid management in India, Hypertension & non communicable disease, communication & skills are the highlights of scientific program.

Platform presentation (Free papers) and the poster presentation also part of this mega event. Three best free paper will be awarded by the Director of Physician Research Foundation & next three paper will be awarded by API. In addition to that next ten best free papers & best five posters will be given awards during Award Session. It is just to promote and encourage the post graduate students for research activities.

I invite you all to participate in this mega event at Bengaluru. I assure that you will be benefited a lot and enriched with practical knowledge which will help in providing better health care for the patients.

The organising committee is working hard day and night to provide all necessary facilities, good infrastructure and excellent hospitality at the venue to make it a grand success.

I invite all physicians, practitioner and the post graduate students to attend and participate in APICON-2018 and enjoy excellent scientific feast during this conference.

JAI HIND

LONG LIVE API
Dear Friends and Colleagues,

I would like to offer a warm welcome and New Year Greetings on the behalf of Physician Research Foundation (PRF) to all the faculty and delegates who will be participating in the 73rd National Conference of Association of Physicians of India (APICON 2018) to be held in Bengaluru, Karnataka, India. The Conference is a not to be missed event for the physicians as it will bring the latest updates, recent advances and State of the Art Presentations from the prominent speakers of India and Abroad. The scientific program will cover general medicine as well as sessions on all the important subspecialties of medicine.

This year the scientific programme will contain some additional features: newer awards, panel discussion and scientific workshops, which will be very helpful for post-graduate students as well as busy physicians. Dr. Pritam Gupta, President-Elect API and Dr. Rohini Handa, Dean ICP need to be complimented for compiling this year’s challenging scientific programme, which will be a scientific feast. From this year PRF will also participate in scientific program and will award three “Best Oral Abstract for Original Research” to encourage budding researcher in the field of Medicine.

The Physicians Research Foundation has entered into its second year of formation and its progress has been very remarkable in the field of medical education and research. The past 2 years of PRF have been very active. It conducted three successful “Research and Publication workshops” in 3 different metro cities (Delhi, Kolkata and Hyderabad) and all three workshops were highly appreciated. During this period PRF received many research grant applications and after expert review and Board meeting it approved research grants to couple of single Centre study and couple of thesis dissertations. Last Year during APICON 2017 PRF also released its first research publication “Pearls of Scientific Paper Writing” which was highly appreciated by everyone. The PRF awarded best original research paper award during Hypertension Society of India (HSI) Annual conference 2017. Its board members approved this award to be made an annual event of PRF from next year. All API members are welcome to apply for 2018-19 research grants and also to collaborate in any research activity for promotion of research in India.

Let us all meet again in great numbers during this years prestigious APICON to be held in Bengaluru “Information Technology City of India”. Dr. P Chadrasekharathe, Organizing Secretary APICON 2018 and his team has worked very hard to make the event a grand success. We should all join him in his endeavor to make it highly successful and memorable.

Long live API!
Dear colleagues,

I am pleased to present the scientific programme of APICON 2018.

These, indeed, are exciting times in medicine as better understanding of disease pathobiology has translated into newer medications and improved treatment strategies. The thrust is on translational medicine. APICONs are multidisciplinary meetings which provide an unparalleled opportunity to meet, discuss and share current concepts with experts and researchers from India and overseas. The Association headed by Dr. B.R. Bansode, the Scientific Committee led by Dr. Pritam Gupta, the Physicians Research Foundation chaired by Dr. Y.P. Munjal and the Indian College of Physicians have converged at this mega conference.

The theme of my CME is “Current Concepts and Future Trends in Medicine.” Workshops, panel discussions, WIN (what is new) and evidence based approach sessions complement state of the art lectures. We have tried to put together a contemporary programme that blends basic and clinical science and caters to the ardent researcher as well as the avid clinician!

It is for the fifth time that APICON returns to Bengaluru. The earlier APICONs in 1965, 1975, 1985 and 1998 bear eloquent testimony to the organizational skills of the Karnataka chapter of API and popularity of Bangalore as a venue. Dr P Chandrasekhara and his team are working hard to provide the right ambience and ensure delegate comfort.

I am sure all participants shall find the scientific programme and the conference academically stimulating and socially rewarding.

With best wishes for the New Year.
Dean-Elect ICP’s Message

G Narsimulu
Dean-Elect, Indian College of Physicians, Chairman, CME Programme, APICON – 2019

Dear Brothers and Sisters

Wish you a happy and prosperous new year -2018. Its my pleasure to welcome you all to APICON 2018 at Bangalore. First I thank all the members of API for responding faith and confidence in me and giving me responsibility of Dean ICP. Never research in medical field and information technology have created new horizons to practice and teach medicine APICON a multi-disciplinary meeting attend by largest number of delegates among various medical conferences provide a good opportunities to all of us meet discuss current concepts of medicine with experts all over the India and overseas. Faculty from all the states of the India and overseas join at common platform to disseminate knowledge and updating our self in field of medicine. It will have impact of improving health care services. Appeal to all to actively participate in deliberation and discussion at APICIN 2018 at Bangalore.

Often doctors are blamed for no fault of them. Its alarming at time mob attacks on doctors and nurses getting reported. We need to work cohesively with government and non-government health care regulators and disseminate facts of medical sciences and practice and update review medical ethics so that the reputation medical profession will remain at high esteem.

My duty to place on record efforts taken by Dr. Y. P. Munjal, Dr. Siddharth N. Shah, our present president Dr. B.R. Bansode, president elect Dr. Pritam Gupta and Dean Dr. Rohini Handa past Dean Dr. A. Muruganathan, Secretary Mangesh Tiwaskar, organisation committee and scientific committee for making APICON - 2018 successful.

I welcome all the Delegates, Faculty, Chairpersons, API members and Trade exhibition members to APICON - 2018 at Bangalore, last appeal all the delegates and members to give feedback about APICON - 2018 to modulate scientific programme 2019 at Cochin. Once again wish you a Happy New Year 2018.
Organising Secretary’s Message

P Chandrasekhara
Organising Secretary, APICON 2018, Bengaluru

Dear Fellow Physicians,

Greetings from Team APICON 2018.

APICON 2018, is fast approaching. We the organizing committee members, are pleased to welcome you to the forthcoming 73rd National conference of API at Bengaluru, after 20 years, “Bees Sal Baad”.

The weather in Bengaluru in the month of February is pleasant, with a hint of the approaching spring.

The venue – GKVK campus is located in the midst of salubrious 800 acres of greenery and over 600 different species of plants and trees in the Agricultural University Campus. It is only 15 minutes away from the KIA airport and away from the bustling city and traffic snarls! At the campus, vast open space is available in front of the main hall for all the scientific and social activities of the conference to take place. Gala dinner & Banquet will be held away from academic surroundings.

Apart from academic activities, elaborate arrangements for social and cultural activities have been made to cater to the needs of delegates and the accompanying persons.

As part of a green initiative and avoiding additional carbon footprints in the city of Bengaluru, we have organized coaches to ferry our delegates to and fro from various parts of the city and top hotels to the conference venue.

We the Organizing Committee extend a warm welcome to you and your family with all our heart. We look forward to hosting you in our city – The Garden City, Pensioners Paradise and the Silicon Valley of India.

Looking forward to WELCOME you all!

P Chandrasekhara
# Tentative Scientific Programme (Apicon CME 2018)

**Thursday, 22nd February 2018**

<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>08.30 - 09.30</td>
<td>WIN (What is new) Session Cardiology</td>
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<tr>
<td></td>
<td>Chairpersons: PC Manoria, Bhopal; A Muruganathan, Tirupur</td>
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<tr>
<td></td>
<td>• Ventricular Premature Beats-When to Treat?</td>
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<td>SB Gupta, Mumbai</td>
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<td></td>
<td>• Spot Light on new drug therapies in Heart Failure</td>
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<td>PC Manoria, Bhopal</td>
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<td>• STEMI care in India - How can we make a difference collectively</td>
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<td>GS Wander, Ludhiana</td>
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<td>09.30 – 10.30</td>
<td>Symposium on Stroke</td>
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<td>Chairpersons: MPS Chawla, New Delhi; Bharat Panigrahi, Bhubaneswar</td>
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<td></td>
<td>• Current status of acute ischemic stroke</td>
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<td>Rohit Bhatia, New Delhi</td>
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<td></td>
<td>• Evaluation and management of T1As</td>
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<td>Subhash Kaul, Hyderabad</td>
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<td></td>
<td>• Update on management of anticoagulation induced</td>
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<td>Intracranial Hemorrhage</td>
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<td>MV Padma Srivastava, New Delhi</td>
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<td>10.30 - 11.00</td>
<td>Rabindranath Tagore Oration</td>
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<td>Chairpersons: BR Bansode, Mumbai; Rohini Handa, New Delhi</td>
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<td></td>
<td>• Health and Disease in Women-From cradle to grave</td>
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<td>T Geetha, Coimbatore</td>
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<td>11.00 - 11.20</td>
<td>Inauguration of CME: Dr M Maiya, Bengaluru</td>
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<td>11.20 - 11.45</td>
<td>Dean’s Oration</td>
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<td>Chairpersons: Dr G Narsimulu, Hyderabad; Dr Amal Banerjee, Kolkata</td>
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<td>• What makes a good doctor better?</td>
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<td>Rohini Handa, New Delhi</td>
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<td>11.45 - 12.45</td>
<td>Emerging Concepts in Rheumatology</td>
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<td>Chairpersons: Vikram Londhey, Mumbai; Atul Kakar, New Delhi</td>
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<td>• Structural damage in axial SpA and role of TNF-inhibitors</td>
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<td>PD Rath, New Delhi</td>
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<td></td>
<td>• JAK inhibition – A new treatment paradigm to treat RA</td>
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<td>Vineeta Shobha, Bengaluru</td>
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<td>• Pneumococcal Vaccination- Need of the hour</td>
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<td>BV Murali Mohan, Bengaluru</td>
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<td>12.45 - 1.45</td>
<td>Diabetes &amp; Inflammation</td>
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<td>Chair: Shashank R Joshi, Mumbai; AK Das, Puducherry</td>
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<td></td>
<td>• Inflammation and Diabetes-the Connect</td>
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<td>Siddharth N. Shah, Mumbai</td>
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<td>• Role and Relevance of Hydroxychloroquine in the management of Type 2 Diabetes:</td>
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<td>Sarita Bajaj, Allahabad</td>
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<td>• Long term safety of Hydroxychloroquine in chronic medical conditions</td>
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<td>S Chandrashekara, Bengaluru</td>
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<td>01.45 - 02.45</td>
<td>Immunotherapeutics</td>
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<td>Chairpersons: Milind Nadkar, Mumbai; Anil Gomber, New Delhi</td>
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<td></td>
<td>• Cytokine Modulation &amp; Manipulation in Rheumatic Diseases</td>
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<td>Bidyut Das, Cuttack</td>
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<td>2.45-4.00</td>
<td>Panel Discussion on AMI</td>
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<td>• AMI: Optimizing outcomes, avoiding mishaps</td>
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<td>Moderator: PC Manoria, Bhopal</td>
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<td>Panelists: Ashok Seth, New Delhi; SS Iyengar, Bengaluru; Ambit Vora, Mumbai; Sanjay Mittal, Gurgaon; Vivek Jawali, Bengaluru</td>
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<tr>
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<tr>
<td>08.30-9.30</td>
<td>Update Session Rheumatology</td>
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<td>Chairpersons: S Chikkamoga, Bengaluru; ME Yeolekar, Mumbai</td>
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<td>• Sjogren’s syndrome- What should internists look out for?</td>
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<td>RN Sarkar, Kolkata</td>
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<td>• Lupus Flare-Recognition and Management</td>
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<td>Renu Saigal, Jaipur</td>
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<td>• Scleroderma Renal Crisis-New news:</td>
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<td>SB Ganguly, Kolkata</td>
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<td>09.30 – 10.10</td>
<td>Infectious Diseases</td>
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<td>Chairpersons: Charu Jani, Mumbai; Subhash Giri, New Delhi</td>
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<td>• Severe Falciparum Malaria- Update on management:</td>
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<td>PC Bhattacharyya, Guwahati</td>
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<td>• Fever with rash:</td>
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<td>Rita Sood, New Delhi</td>
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<td>10.10-11.00</td>
<td>State of the Art Lectures</td>
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<td>Chairpersons: URK Rao, Hyderabad; Vaibhav Shukla, Lucknow</td>
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<td>• Translational Immunology- Advances impacting Clinical Care in 2018:</td>
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<td>Amita Aggarwal, Lucknow</td>
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<td>• Pancreatitis Management in 2018:</td>
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<td>Ajay Kumar, New Delhi</td>
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<td>• What makes a good doctor better?</td>
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<td>Rohini Handa, New Delhi</td>
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<td>11.45-12.45</td>
<td>Recent Trends</td>
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<td>Chairpersons: Kamlesh Tewari, Muzaffarpur; RK Goyal, Ajmer</td>
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<td>• Diabetes Treatment- Notable Advances in 2017:</td>
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<td>Shashank R Joshi, Mumbai</td>
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<td>• Ten New Developments in Neurology in 2017:</td>
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<td>Salil Gupta, New Delhi</td>
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<td>• Gastroenterology-The year in review:</td>
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<td>Rakesh Aggarwal, Lucknow</td>
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**Time** | **Session**
--- | ---
12.45-1.45 | *Symposium on Geriatrics*  
Chairpersons: YSN Raju, Hyderabad; Sandeep Garg, New Delhi  
- Geriatric syndromes - practice in an ageing world: AB Dey, New Delhi  
- Immuno-senescence and vaccination in old age: IS Gambhir, Varanasi  
- Writing a prescription for an older patient: K Prasad Mathews, Vellore

1.45-2.45 | *Pulmonology*  
Chairpersons: Alladi Mohan, Tirupati; Hemant Sharma, New Delhi  
- XDR-TB: Updates in epidemiology, diagnosis and treatment: SK Sharma, New Delhi  
- COPD: Practical outcome tools - from clinical trials to clinical care: Sanjeev Nair, Trivandrum  
- Interstitial Lung Disease - A rational approach: PR Mohapatra, Bhubaneswar

2.45-4.00 | *Case based learning- Hepatitis C*  
Moderator: Rakesh Aggarwal, Lucknow  
Panelists: Amit Goel, Lucknow; Pankaj Puri, New Delhi; Akash Shukla, Mumbai

**Time** | **Session**
--- | ---
08.30-9.30 | *HIV & Re-emerging infections*  
Chairpersons: Santosh K Swain, Cuttack; Pankaj Choudhary, New Delhi  
- Scrub Typhus- Are we missing this? AP Naveen Kumar, Vishakapatnam  
- PEP in HIV Exposure: Murugesh Pastapur, Gulbarga  
- TB & HIV: Clinical Pearls for the Clinician: Sanjeev Sinha, New Delhi

09.30 – 10.10 | *WIN Session Hematology*  
Chairpersons: BK Tripathi, New Delhi; Naresh Pannani, New Delhi  
- Hematology: The year in Review: Sudhir Mehta, Jaipur  
- Hemophilia and mobile app - a C change in compliance and complications: Y Uday, New Delhi

10.10-11.00 | *Contemporary Issues*  
Chairpersons: Siddharth Das, Lucknow; Udai Lal, Hyderabad  
- Treating to Target in Gout: SA Haq, Bangladesh  
- Health Economics- What and why for the Internists: S Shankar, Bhubaneswar

11.00-11.20 | *Inauguration of CME: Dr M Maiya, Bengaluru*

11.20-11.45 | *Dean's Oration*  
Chairpersons: Dr G Narasimulu, Hyderabad; Dr Amal Banerjee, Kolkota  
- What makes a good doctor better? Rohini Handa, New Delhi

11.45-12.45 | *Evidence based approach in Gastroenterology*  
Chairpersons: Jai Bhagwan, Gurugram; SK Gautam, Kanpur  
- Gastroesophageal Reflux: Vineet Ahuja, New Delhi  
- Constipation: Uday C Ghoshal, Lucknow

**Time** | **Session**
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12.45-2.30 | *Advances in Rheumatology*  
Chairpersons: Sunil Attr, New Delhi; Binoy Paul, Calicut  
- Preclinical RA: Binoy Paul, Calicut  
- Early diagnosis and management of RA: Focus on biologics: Shashank Akerkar, Mumbai  
- Infliximab at 20 years- Still going strong! Ramesh Jois, Bengaluru  
- Redefining Ankylosing Spondylitis treatment with IL-17 inhibitors: Sundeen Upadhyay, New Delhi  
- Biologics in Osteoporosis: Indrajit Agrawal, Gurugram

2.30-2.50 | *Hypertension*  
Chairpersons: Prabhat K Padhi, Cuttack; Vijay Arora, New Delhi  
- Blood Pressure Variation- The Next Big leap in Hypertension: BC Kalmath, Mumbai

2.50-4.00 | *Symposium on Intensive Care*  
Chairpersons: Ashit M Bhagwati, Mumbai; Pravat K Thatoi, Cuttack  
- Acanthobacter- How to overcome this menace in the ICU: AP Misra, New Delhi  
- Treatment of septic shock- a physiological approach: Rajesh Chawla, New Delhi  
- Acute respiratory failure in the MICU- a physician’s perspective: Alladi Mohan, Tirupati

**Time** | **Session**
--- | ---
08.30-9.30 | *Clinical Approach Session*  
Chairpersons: RM Chhabra, New Delhi; Chandan Das, Bhubaneswar  
- Syncope: Ashok Taneja, Gurugram  
- Non-Infectious Causes of Fever in the ICU: Sumeet Singla, New Delhi  
- Diffuse Parenchymal Lung Diseases: Ajay Handa, Bengaluru

09.30 – 10.30 | *When to Order & How to interpret*  
Chairpersons: SM Baruah, Dibrugarh; PS Karmakar, Kolkota  
- HLA-B27: LA Gaur, Bikiker  
- ANA and ENA: P Samikrishnan, Salem  
- ANCA: Aman Sharma, Chandigarh

10.30-11.00 | *Patient Safety*  
Chairpersons: Ramesh K Goenka, Bhubaneswar; YC Porwal, New Delhi  
- Clinical errors and how to prevent them: Amitabh Sagar, Dehradun

11.00-11.20 | *Inauguration of CME: Dr M Maiya, Bengaluru*
The image contains a schedule of events, workshops, and sessions held at a conference. The schedule is divided into different time slots with specific sessions and topics covered. The content is detailed and organized, providing information on various medical and scientific discussions. The text is structured in a clear, readable format, making it easy to understand the agenda and topics discussed. The document appears to be part of a journal or conference publication, indicating it is likely a formal event related to the field of medicine and science.
In Hypertension,

**Zilarbi**
Azilsartan Medoxomil 40/50 mg Tablets

Drop in BP, as it should be...

In Hypertension associated with Angina, IHD, CHF & Post MI,

**METPURE-XL**
B(-) Metoprolol PR 12.5/25/50 mg Tablets

Because Heart Matters

Offers high cardioselectivity & Beta-1 blockade over 24 hours

For any medical query, please write to us on emcure.com or call on 1800228424 (Toll Free)
## TENTATIVE SCIENTIFIC PROGRAMME (APICON 2018)

### Friday, 23rd February, 2018

<table>
<thead>
<tr>
<th>TIME</th>
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| 8.30 am - 9.00 am | Hall - A  
  Inauguration of Scientific Program  
  Dr. Y.P. Munjal |
| 9.00 am - 9.30 am | Hall - A  
  Sanoﬁ Aventis Lectureship in Diabetes Oration  
  Can Medical Care Change the Natural History of T2DM: Turning Fiction into Reality  
  Dr. Rajesh Rajput |
| 9.30 am - 10.00 am | Hall - A  
  Guest Lecture  
  Optimizing communication in patient care  
  Dr. Amit Ghosh |
| 10.00 am - 10.30 am | Hall - A  
  Presidential Oration  
  Changing Trends in Medicine: Past, Present and Future  
  Dr. Pritam Gupta |
| 10.30 am - 11.00 am | Hall - A  
  Guest Lecture  
  Preventing Breast Cancer: The internist role  
  Dr. Karthik Ghosh |
| 11.00 am - 11.30 am | Hall - A  
  Key Note Address  
  OSA & metabolic syndrome  
  Dr. Randeep Guleria  
  Dr. V. Parameshwara Life Time Achievement Award  
  Dr. B.K. Sharma |
| 11.30 am - 12.30 pm | Hall - A  
  Symposia on Cardiology  
  Top life changing advances in cardiology  
  Dr. Praveen Chandra |
| 12.30 pm - 1.30 pm | Hall - A  
  CPC-1  
  Guest Lecture  
  Latest Guidelines for Hypertension in 2018  
  Dr. C. Venkat S Ram |
| 1.30 pm - 2.00 pm | Hall - A  
  Symposium on Hypertension  
  Management of Hypertension  
  Dr. Upendra Kaul, Dr. C.N. Manjunath, Dr. R. Sridhar, Dr. K.M. Prasanna Kumar, Dr. N.R. Rau |
| 2.00 pm - 3.00 pm | Hall - A  
  Guest Lecture  
  Multivessel CAD: Management approach  
  Dr. Ashish Thakur |
| 3.00 pm - 3.30 pm | Hall - A  
  Meet the Master Teacher  
  Diabetes and Heart  
  Dr. Y.P. Munjal  
  Role of stem cell therapy in diabetes  
  Dr. A.H. Zargar  
  Diabetic Dyslipidemia: Update  
  Dr. Shashank R. Joshi |
| 3.30 pm - 4.30 pm | Hall - A  
  Dr. G.G. Sainani Oration  
  Neurocysticerosis: An ongoing journey  
  Dr. Gagandeep Singh |
| 4.30 pm - 5.00 pm | Hall - A  
  Symposium by Glasgow  
  Stable CAD: Conservative v/s Intervention  
  Dr. Siddhart Mukerjee  
  Newer guidelines for myocardial infarction-2018  
  Dr. Ravikant  
  Very late complication of Angioplasty  
  Dr. Mantosh Panja |
| 5.00 pm - 6.00 pm | Hall - A  
  WORKSHOP  
  NIV & Oxygen Therapy |
| 6.00 pm - 7.00 pm | Hall - A  
  Clinic Approach  
  Approach to a patient with syncope  
  Dr. Amit Kalwar  
  Transient loss of consciousness: A clinical approach  
  Dr. H.V. Srinivas  
  Solitary Pulmonary Nodule: Clinical approach  
  Dr. BNM Prasad |
| 7.00 pm - 8.00 pm | Hall - A  
  Infection  
  Liver abscess: Management in the present era  
  Dr. H.S. Thukral  
  MDR-TB and XDR-TB: What are the options?  
  Dr. Bidita Khandelwal  
  Newer Modalities of diagnosis of Tuberculosis  
  Dr. Prem Prakash Gupta  
  ABG analysis: Simple steps for understanding  
  Dr. Ravindra Kumar Das |

### Hall - B

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<th>TIME</th>
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| 11.30 am - 12.30 pm | Hall - B  
  Hypertension Update  
  Azilsartan-A new baby in old horizon  
  Dr. B.A. Muruganathan  
  Diuretics in Hypertension: A Review & Update  
  Dr. R. Rajasekar  
  Pitfalls in management of Hypertension  
  Dr. Kamlesh Tiwari |
| 12.30 pm - 1.30 pm | Hall - B  
  Symposium on Hypothyroidism  
  Thyroid function test: How to interpret?  
  Dr. Sujoy Ghosh  
  Hypothyroid in pregnancy  
  Dr. Sameer Aggarwal  
  Systemic disorders in Hypothyroid  
  Dr. Sanjay Kalra |
| 1.30 pm - 2.30 pm | Hall - B  
  Neurology  
  Immunomodulation in neurological disorders  
  Dr. M.M. Mehdiniratta  
  Headache-Headache for Physician  
  Dr. Gurubax Singh  
  Declaring Brain death in India: Current status  
  Dr. Shekhar Chakraborty |
| 2.30 pm - 3.30 pm | Hall - B  
  Clinic Approach  
  Approach to a patient with syncope  
  Dr. Amit Kalwar  
  Transient loss of consciousness: A clinical approach  
  Dr. H.V. Srinivas  
  Solitary Pulmonary Nodule: Clinical approach  
  Dr. BNM Prasad |
| 3.30 pm - 4.30 pm | Hall - B  
  Symposium on Obesity  
  Dr. Soumitra Ghosh |
| 4.30 pm - 6.30 pm | Hall - B  
  Infection  
  Liver abscess: Management in the present era  
  Dr. H.S. Thukral  
  MDR-TB and XDR-TB: What are the options?  
  Dr. Bidita Khandelwal  
  Newer Modalities of diagnosis of Tuberculosis  
  Dr. Prem Prakash Gupta  
  ABG analysis: Simple steps for understanding  
  Dr. Ravindra Kumar Das |
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<td>23.00 - 23.30 pm</td>
<td>Transfusion transmitted infections</td>
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<td>Dr. Apu Adhikari</td>
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<td>Adult Immunization: Current scenario in India</td>
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<td>Dr. Prashanta Bhattacharya</td>
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**WORKSHOP**

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<td>Pre Lunch</td>
<td>Digital Medicine on Smartphone</td>
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<td>Post Lunch</td>
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<td>9.00 am - 10.00 am</td>
<td>Environmental Medicine</td>
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<td>Air pollution and its health impact</td>
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<td>Dr. Vishal Chopra</td>
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<td>Global warming &amp; its health impact</td>
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<td>Glycemic pentad: A comprehensive approach in diabetes management</td>
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<td>Dr. Rajeev Chawla</td>
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<td>Combination therapy in Hypertension</td>
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<td>Dr. Siddharth Shah</td>
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<td>Dual Anti-platelet therapy: How long?</td>
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<td>Dr. Sanjay Mehrotra</td>
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<td>Hypertension Update</td>
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<td>Management of isolated systolic Hypertension: Current status</td>
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<td><strong>Epilepsy Update</strong></td>
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<td>First Seizure-To treat or not to treat</td>
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<td>Changing scenario in management of status epilepticus</td>
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<td>Vivax Malaria-No longer benign!</td>
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<td>Management of enteric fever: Update</td>
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<td><strong>Tropical Infection</strong></td>
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<td>Complicated dengue: case Base discussion</td>
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<td>Leptospirosis: What we should know?</td>
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<td>Scrub Typhus: Need for alert</td>
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<td>Metformin-The Molecule of the Decade: Old Is Gold</td>
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<td>Lean Type-2 Diabetes in India: What's New?</td>
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<td>Dyslipidemia Management: Newer avenues</td>
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<td>Dr. Shyam Sunder</td>
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<td>Rational use of antibiotics in ICU</td>
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<td><strong>Netaji Oration</strong></td>
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<td><strong>Guest Lecture</strong></td>
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<td>Current diagnosis and treatment of vertigo and dizziness</td>
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<td>Prof. Michael Strupp</td>
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<td>11.00 am - 12.00 pm</td>
<td><strong>Gastroenterology</strong></td>
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<td>Game changers in Gastro: Hepatology practice</td>
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<td>Dr. Rajesh Upadhay</td>
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<td>A cross talk on choosing a right prokinetic in management of dysmotility</td>
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<td>Dr. Naresh Bhatt / Dr. T.K. Banerjee</td>
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<td>Clinical pearls in constipation management: The Indian perspective</td>
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<td>Dr. B.S. Ravindra</td>
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<td>12.00 pm - 1.30 pm</td>
<td><strong>Key Note Address</strong></td>
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<td>Affordable healthcare to Transform Indian Economy</td>
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<td>Dr. Devi Shetty</td>
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<td>1.30 pm - 2.30 pm</td>
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<td>Symposium on Lipid Management</td>
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2.30 pm - 3.00 pm  
**Dr. P.J. Mehta Oration**
Echocardiographic Navigation in AF: Relevant at all stages from Irregular Pulse to Sturring of the Speech in India & the real world
Dr. H.K. Chopra

3.00 pm - 4.00 pm  
**Symposium on NCD**
Dr. Ashok Kumar Das

4.00 pm - 4.30 pm  
**Prof. Rathinavelu Subramaniam Endowment Oration**
H1N1 Influenza: 9 years journey in Gujrat
Dr. Asha N. Shah

4.30 pm - 5.00 pm  
**Guest Lecture**
Value of evidence based medicine in practice
Dr. Alan Rosmarin

5.00 pm - 6.00 pm  
**Symposium on Obesity**
Dr. Soumitra Ghosh

6.00 pm - 7.00 pm  
Self management and education: A novel tool for diabetes management
Dr. Amit Gupta
Increatin therapy: Paradigm shift of T2DM
Dr. Parixit Goswami
PCOS: From inutero to menopause
Dr. Sushil Jindal

**WORKSHOP**

Full Day  
**Echocardiography**
Hall - B

9.00 am - 10.00 am  
**Cardiology Update**
Is left main still a surgeons domain?
Dr. B. Keshavamoorthy
Atherosclerosis: Can we tame it?
Dr. Harendra Kumar
Pulmonary embolism: Focus on New Drugs
Dr. V.K. Katyal

10.00 am - 10.30 am  
**Guest Lecture**
Respiratory effects of obesity
Dr. Geoff Chadwick

10.30 am - 11.30 am  
**COPD-Update**
Interventions in pulmonology
Dr. Ravindra Mehta
COPD-2018: Update
Dr. Agam Vora
ACOS (Asthma COPD Overlap Syndrome)
Dr. K.N. Padhiary

11.30 am - 12.30 pm  
**Tropical Disease-Update**
Resurgence Of Yellow fever:A Big challenge
Dr. R.R. Chaudhary
Zika: Global epidemiology, Is it a threat to India
Dr. Partha S. Karmakar
Ebola outbreak: Lessons learnt
Dr. Rajiv Raina

12.30 pm - 1.30 pm  
**ICU**
Evidence based fluid resuscitation in ICU-A review
Dr. Manish Kumar Aggarwal
Critical Care Toxicology Update-2018
Dr. Omender Singh
Difficult to treat bugs in ICU: A review
Dr. Pankaj Kumar

1.30 pm - 2.00 pm  
**Honor Lecture**
Hepatocellular Carcinoma:Screening, Diagnosis & Management
Dr. Kirti Shetty

2.00 pm - 3.00 pm  
**Symposium on Medico-legal Practice**
Dr. Y.P. Munjal

3.00 pm - 4.00 pm  
**HIV**
90-90-90 strategy in HIV epidemic
Dr. R. Sajith Kumar
Cardio Pulmonary Manifestation of HIV
Dr. Alka Deshpande
Neurological manifestation in HIV
Dr. Dipanjan Bandopadhyay

4.00 pm - 5.00 pm  
**State of ART**
ART in HIV infection: State of Art
Dr. B.B. Rewari
HIV & TB coinfection: Update
Dr. Sanjiv Sinha
Immune Reconstitution Inflammatory Syndrome (IRIS): More care
Dr. Vinay Rampal

5.00 pm - 6.00 pm  
**Rheumatology**
Chikungunya Arthritis
Dr. Harpreet Singh
Viral polyarthritis
Dr. M. Ravikeerthi
Asymptomatic hyperuricemia: What to do?
Dr. Arup Kumar Kundu

6.00 pm - 7.00 pm  
**Gastroenterology**
Gut Microbia: A forgotten organ
Dr. Balvir Singh
GI manifestation of systemic disorder
Dr. Satya Prakash
NAFLD………………Is it really Benign?
Dr. A.K. Chauhan

**WORKSHOP**

Pre Lunch  
**Scientific Paper Writing**

Post Lunch  
**Role of Yoga & Meditation in Health & Stress Management**
Hall - C

9.00 am - 10.00 am  
**Hypertension**
BP Variability: Next big thing
Dr. Sadanand Shetty
Is there a need newer CCB in the era of amlodipine
Dr. Brian Pinto
Young hypertensives discussion on a case study
Dr. Geevar Zachariah

10.00 am - 11.00 am  
**Guest Lecture**
The Role of Electronic Health Records and Health IT in the Learning Health System
Dr. Prabhu Shankar
Recent advances in Renal Transplantation
Dr. Jagadish Jamboti

11.00 am - 12.00 pm  
**Role of IT in regulating medical education and practice**
Dr. Ajay Kumar
Is there down fall in Health care system? If so-How to improve?
Dr. R.M. Chhabra
Role of Nuclear Medicine in Myocardial Viability
Dr. Sunil H.V.

12.00 pm - 1.00 pm  
**Nephrology**
Recipient and donor selection in India: Current status
Dr. S.K. Agarwal
Rituximab-?A panacea for Glomerular diseases
Dr. Dipankar Bhownik
Prevention and management of diabetic kidney disease
Dr. Rajesh Aggarwal
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<th>TIME</th>
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<td>1.00 pm - 2.00 pm</td>
<td><strong>Haematology</strong></td>
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<td>Haemotransfusion Therapy: Boon or waste?</td>
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<td>Clinical Approach to patient with purpuric spot</td>
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<td>Anemia: Clinical approach</td>
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<td>Dr. Prabahit Pandey</td>
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<td><strong>Insulin Update</strong></td>
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<td>Early Initiation of Insulin Therapy</td>
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<td>Once weekly GLP-1 analogue: Where are we?</td>
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<td>Dr. Vinod Mittal</td>
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<td>3.00 pm - 4.00 pm</td>
<td><strong>Rheumatology</strong></td>
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<td>Biosimilars in RA: Sooner than later</td>
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<td>Polyarteritis Nodosa: An Enigma</td>
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<td>Vitamin D therapy: Hope or hype</td>
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<td>Challenges in management of CAP</td>
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<td>Role of immunotherapy in allergy disorders</td>
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<td>Sickle cell crisis: How to go forward?</td>
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<td>You cannot rash when fever coincides with rash</td>
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<td>Tropical Fever: A case based approach</td>
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<td>Refractory anemia: What to do?</td>
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<td>9.00 am - 10.00 am</td>
<td><strong>Cardiology</strong></td>
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<td>A review of Cardio renal syndrome</td>
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<td>Dr. Gurinder Mohan</td>
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<td>Newer Anti platelets</td>
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<td>Heart Failure: What is new?</td>
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<td>Dr. Amal Kumar Banarjee</td>
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<td><strong>Pregnancy</strong></td>
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<td>Pregnancy and heart disease</td>
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<td>Dr. G.S. Wander</td>
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<td>Hypertension in pregnancy</td>
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<td>GDM: Physician’s prospective</td>
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<td>Dr. Abha Gupta</td>
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<td>Glitpins v/s Sulfonyl urea: Which is better?</td>
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<td>ADA-2018 standard of care: Update</td>
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<td>Metformin v/s Insulin in treatment of GDM</td>
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<td>History of evolution of medicine: Global prospective</td>
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<td>Dr. P. Mohan Rao</td>
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<td>Hypnotherapy in medical disorders</td>
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<td>An Approach To Recurrent Falls in the Elderly</td>
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<td>Dr. S. Ramnathan Iyer</td>
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### Sunday, 25th February, 2018

#### TIME | SUBJECT
---|---
10.00 am - 11.00 am | Diabetes
- Are all gliptins same: How to decide & choose?<br>Dr. Harbir Kaur Rao
- Musculoskeletal manifestation of diabetes<br>Dr. Anita Nambiar
- Role of artificial Pancreas in T2 DM<br>Dr. Narendra Pal Jain

11.00 am - 12.00 pm | Nephrology
- Anaemia in CKD: Management<br>Dr. H.K. Aggarwal
- ABO incompatibility Renal transplant: Indian scenario<br>Dr. Dinesh Khullar
- Hyperuricemia: A newer risk factor for CKD<br>Dr. S.S. Sundar

12.00 pm - 1.00 pm | Neurology
- Present status of thrombolysis in acute ischemic stroke-Indian scenario<br>Dr. V. Shankar
- Temporal lobe seizure<br>Dr. N. Balaurugan

1.00 pm - 2.00 pm | Gastro
- IgG4 related disorders: What should we know?<br>Dr. Dinesh Gupta
- GERD: What after PPI?<br>Dr. V.G. Mohan Prasad
- Proton Pump Inhibitors & Renal Safety – Recent Understandings<br>Dr. S. Shanker

2.00 pm - 3.00 pm | Geriatrics
- Geriatric teaching: Indian relevance<br>Dr. O.P. Sharma
- Biology of Aging<br>Dr. Jyotirmoy Pal
- Frailty: Current Concept<br>Dr. Y.S. Raju

3.00 pm - 4.00 pm | Misc
- Muscle cramps: A challenge for Physician<br>Dr. Kiran Soni
- Isoniazid Preventive Therapy; Operational Guidelines<br>Dr. Mohanjeet Kaur
- Current controversy in lipid lowering drugs<br>Dr. Premnath M.

4.00 pm - 7.00 pm | Medical Quiz
- Dr. Mukesh Bhatia

#### TIME | SUBJECT
---|---
10.30 am - 11.00 am | Honor Lecture
- Osteoporosis: An evidence based approach<br>Dr. Tanu Shweta Pandey

11.00 am - 12.00 pm | Cardiology
- Coronary microvascular dysfunction: An update<br>Dr. (Prof.) S.M. Mustafa Zaman
- How did Fractional flow reserve (FFR) guided revascularization change my clinical practice?: cases based discussion<br>Dr. S. Nagendra Boopathy
- Disease modifying medications in systolic heart failure<br>Dr. Alok Sehgal

12.00 pm - 1.00 pm | Award Session
- PRF Awards
- API Awards
- Dr. Vithalrao Nadgouda Best All India Annual Thesis Award

#### Hall - B
9.00 am - 10.00 am | Reno vascular hypertension: Current status<br>Dr. Puneet Rijhwani
- ABPM in clinical settings<br>Dr. Narayan Deogaonkar
- Grey areas in diagnosis and management of HTN<br>Dr. Anita Jaiswal

10.00 am - 11.00 am | Calcium channel blocker in the management of Hypertension: Current status<br>Dr. D.P. Chakraborty
- Unmet needs & current magnitude of CHF<br>Dr. Suresh Pattad
- Management of Upper GI bleed in ACS on dual antiplatelets<br>Dr. J.K. Mokta

11.00 am - 12.00 pm | Alcoholic liver disease in women<br>Dr. B.S. Nagaraja
- Cirrhosis of Liver: Beyond beta blocker & diuretics<br>Dr. Anup K. Das
- Hepatorenal syndrome: Clinical considerations<br>Dr. (Mrs.) Tanuja Manohar

12.00 pm - 1.00 pm | Growth hormone replacement therapy: Current recommendations<br>Dr. Minal Mohit, Jaipur
- Renal stone disease: Endocrinologist perspective<br>Dr. Vageesh Iyer
- Hyperprolactenemia: How to manage?<br>Dr. S.K. Sharma

#### Hall - C
9.00 am - 10.00 am | Infections
- Dengue revisited<br>Dr. V. Channaraya
- Malaria: Unusual complications<br>Dr. Y.J.V. Reddy
- Rickettsia infection spreading beyond boundaries<br>Dr. Vasantha Kamath

10.00 am - 11.00 am | Anemia in elderly: Experience at a large tertiary centre<br>Dr. P.S. Ghelaut
- Hemophilia in India: Recent advances<br>Dr. Cecil Ross
- Chronic energy deficiency: Association to NCD<br>Dr. H. Basavangowdappa
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<td>Poisoning &amp; Toxicology</td>
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<td>Snake Bite: Current guideline</td>
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<td>Dr. Shibendu Ghosh</td>
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<td>Common poisioning &amp; management</td>
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<td>Dr. Saurabh Srivastav</td>
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<td>White Poisons in our diet &amp; health hazards</td>
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<td>Dr. Subhash Giri</td>
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<td>Immunotherapy a new weapon in cancer treatment</td>
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<td>Dr. Vineet Talwar</td>
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<td>Targeted therapy in lung cancer</td>
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<td>Dr. Govinda Babu K.</td>
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<td>Air ambulance service in India: Current scenario in 2018</td>
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<td>Dr. Munish Prabhakar</td>
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<td>Pesticides &amp; chemicals as endocrine disruptors for obesity and metabolic syndrome: Recent evidence</td>
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<td>Dr. Arvind Gupta</td>
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<td>Noval therapies to preserve beta cell function</td>
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<td>Dr. Vijay Negalur</td>
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<td>A decade of RCTs in diabetes: Clinical implication</td>
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<td>Dr. Suhas Erande</td>
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<td>Ambulatory glucose monitoring: mandatory or optional</td>
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<td>Dr. G.B. Sattur</td>
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<td>Management of Heat stroke</td>
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<td>Nocturia In elderly: A multidisciplinary approach</td>
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<td>ARDS:Recognition &amp; management</td>
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<td>Management of acute Pancreatitis</td>
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<td>HIV</td>
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<td>OIs in HIV: Changing scenario</td>
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<td>Dr. Amar Pazare</td>
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<td>HIV among elderly</td>
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<td>Dr. K. Ravi</td>
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<td>Nephrotic syndrome: Adult onset</td>
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<td>Dr. K.C. Gurudev</td>
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<td>Lung fibrosis: An approach</td>
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<td>Neuromyelitis Optic: An Update</td>
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<td>Dr. M.K. Roy</td>
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<td>Challenges of obesity in women in India</td>
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<td>Dr. Sarita Behera</td>
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**MAHA RSSDI 2018**

16th to 18th February, 2018 • Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai 400088

**Scientific Highlights**

- Unique workshops
- JAM sessions
- Thane Physicians + UK Delegation session
- Debates-With-A-Difference
- Meet-The-Experts
- MRCP UK workshop
- Thane Physicians Showcase
- Quiz from the Quiz Masters
- Practice changing research
- Practical lectures for the practitioners
- Best research papers in Diabetes
- Interactive sessions
- Your turn on the stage—A chance for the delegates to make their point

**Dr. B. K. Mahavarkar**
Organising Chairman
dr_mahavarkar@rediffmail.com • 9820385830

**Dr. Amit Saraf**
Organising Secretary
dramitsaraf@gmail.com • 9819104041

**Conference Secretariat:**
MAHA RSSDI 2018
209 F, Marwadi Chawl, Opp. Gamadia Colony, Tardeo Road, Mumbai 400 007.
Tel : 022-2380 6843 • email : maharssdi2018@gmail.com / info@eventsinmumbai.com • www.maharssdi2018.org
JAPI Awards for 2017

Dr. J.C. Patel and Dr. B.C. Mehta Best Papers Award 2017

- **1st Prize for Best Original Article entitled** “Cardiac Biomarkers and Myocardial Dysfunction in Septicemia” - Deep Chandh Raja, Sanjay Mehrotra, Avinash Agrawal, Abhishek Singh, Kamlesh Kumar Sawlani - 1Senior Resident, 2Professor, 3Associate Professor, King George Medical College, Lucknow, Uttar Pradesh - J Assoc Physicians India 2017;65(12):14-19.

- **2nd Prize for Best Original Article entitled** “High Prevalence of Hypovitaminosis D in Patients Presenting with Proximal Muscle Weakness: A Sub-Himalayan Study” - Jatinder Mokta, Balraj, Kiran Mokta, Asha Ranjan, Ivan Joshi, Mahak Garg - 1Medicine, Professor, Deptt. of Medicine, 2Associate Professor, Deptt. of PSM, 3Assistant Professor, Deptt. of Microbiology, 4Senior Resident, 5Junior Resident, Deptt. of Medicine, IGMC, Shimla, Himachal Pradesh - J Assoc Physicians India 2017;65(11):55-58.

- **1st Prize for Best Case Report entitled** “Scleroderma-like Initial Presentation of Multiple Myeloma” - Ayan Basu, Santanu Kundu, Mehebubar Rahman, Yogiraj Ray, Rama Prosad Goswami - 1Clinical Tutor, 2Post Graduate Trainee, 3Associate Professor, 4Assistant Professor, 5Professor, Department of Tropical Medicine, School of Tropical Medicine, Kolkata, West Bengal - J Assoc Physicians India 2017;65(10):93-95.

- **2nd Prize for Best Case Report entitled** “Isolated Pancreatic Tuberculosis in an Immunocompetent Host” - Pankaj Singhai, Ravi Gadhadh, Sangeta Joshi, Shruti Krishnan, Aparna - 1Consultant Physician & Head, Department of Internal Medicine, 2Consultant Radiologist, Department of Radiology, 3Consultant Microbiologist, Department of Microbiology, 4Senior Registrar, 5Resident (DNB), Department of Internal Medicine, Manipal Hospital, Bangalore, Karnataka - J Assoc Physicians India 2017;65(12):98-100.

- **1st Best Correspondence entitled** “Can Forced Expiratory Time be Used as a Supportive Tool in the Diagnosis of COPD ?” - Urvinderpal Singh, Daksh Jhim, Deepak Goyal, Naresh Kumar, Prabhleen Kaur, Neha Garg - 1Professor and Head, 2Junior Resident, 3Senior Resident, Govt. Medical College, Patiala, Punjab - J Assoc Physicians India 2017;65(12):108-109.

- **2nd Best Correspondence entitled** “Serum Amylase and Lipase Levels in Diabetic Ketoacidosis: A Common Misdirection” - Rathindranath Sarkar, Rudrajit Paul, Debaditya Roy, Indranil Thakur, Goutam Lahiri, Tanmay Jyoti Sau, Kunal Haldar - 1Prof. & Head, 2Asst. Prof., 3Resident, 4RMO, 5Professor, Medical College, Kolkata, West Bengal - J Assoc Physicians India 2017;65(6):111.

VR Joshi API Award for Outstanding Referee for the Year 2017

- Dr. T.K. Suma, Alappuzha (Kerala)
- Dr. Aman Sharma, Chandigarh
- Dr. Farah Jijina, Mumbai (M.S.)
**Abstracts: Free Papers – Platform Presentation (APICON-2018)**

### Cardiology

#### Fluid therapy in Right Ventricular Infarction - Echocardiography as a Simple Tool

**Manohar MR, Sunil Baragi, Raghavendra Mural**

S. Nijalingappa Medical College, Navanagar, Bagalkot

**Introduction:** Right ventricular infarction (RVMI) is one of the unique subsets of acute coronary syndrome seen in daily practice. In RVMI augmentation of RV preload with fluids is considered vital. The seemingly paradox of raising the already raised RVEDP and RAP is often a risky hemodynamic adventure. There is no simple guide to monitor fluid therapy in RVMI.

**Objectives:** In this context, we reasoned, a simple estimation of IVC diameter and its respiratory variation would give an accurate reflection of volume in the right heart chambers.

**Methods:** In a 6 month prospective study, with 42 patients getting admitted with acute myocardial infarction, a subset of 14 patients was established to have RVMI by clinical and ECG criteria and these were the subjects of the study. 6 had associated posterior MI, 4 had lateral ST elevation. Patients were treated as per STEMI protocol.

9 were eligible for thrombolysis. The mean blood pressure on admission was 104 (70-120mmh) during thrombolysis the blood pressure fell by 5–10mmhg.

All patients were administered IV normal saline to augment the blood pressure. 1000ml were given over 1 hour and if the BP was not raising another 1000ml was infused in the next 1 hour.

**Results:** Bedside echocardiography was done on admission and was repeated during and/or after fluid infusion. The mean IVC diameter was 2.5(2.3–3.0). The mean IVC diameter was 2.1cm (1.4 –2.6). On completion of 1000ml fluid infusion, the mean IVC diameter was 2.5(2.3–3.0).

**Conclusion:** Simple bedside estimation of IVC dimension by 2D echocardiography can provide a fairly accurate estimate of volume status of right heart chambers.

Careful monitoring of IVC size help us, in the fluid management of RVMI. One rule of thumb is an increase of IVC diameter by 30% from its basal value could be a cut of point for termination of fluid infusion.

### Prevalence and Prognostic Significance of Prolonged QTc Interval in Emergency Medical Patients: A Prospective Observational Study

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**Introduction:** QTc interval is affected by many factors and might have prognostic significance. Large number of patients admitted in medical emergency services are acutely ill, have multiple co-morbidities and are on number of medications with potential to prolong QTc interval. We planned this study therefore to determine prevalence of prolonged QTc interval in patients at presentation to emergency medical services and to find out its prognostic significance.

**Material & Methodology:** This was a single center, prospective, observational study carried out on 279 patients of varying illnesses recruited from emergency medical services attached to department of Internal Medicine at PGIIMER Chandigarh, a tertiary care hospital, over duration of one year from January 2016 to December 2016.

**Results:** Out of 279, 95 patients were found to have prolonged QTc interval with prevalence of 34.1%. Fifteen patients (5.4%) were found to have markedly prolonged QT interval (QTc >500 ms). Of various medical conditions, QTc prolongation of statistical significance was observed in patients of chronic kidney disease (P value <0.047), chronic liver disease (P value <0.001), hemorrhagic cerebro-vascular accident (P value=0.026) and heart failure (P value=0.009). Of various lab parameters, statistically significant difference was found in patients with anaemia (P value = 0.032), deranged renal parameters (P value = 0.033) and hypokalemia (P value = 0.026).

There was no difference in duration of hospital stay (P value=0.213) and frequency of in-hospital mortality (P value=0.747) between two groups, although on subgroup analysis, patients with severe QTc prolongation had significantly higher in-hospital mortality (P value= 0.029).

**Conclusion:** We have demonstrated the range, accuracy and variation of QTc estimates across time points related to ST elevation that can be obtained from a smaller sample of the ECGs. The QTc-ST significant negative correlation implies that a relationship exists, and validation of these results in a larger study would provide a global first-in-kind reference standard for actual STEMI patients to complement the existing standards.
Comparison of Body Mass Index and Lipid Accumulation Product as a Better Indicator of Metabolic Syndrome

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**Background:** Metabolic syndrome (MS) is defined to be cluster of metabolic interrelated risk factors of such as obesity, elevated blood pressures, glucose metabolism disturbances and dyslipidemia. The American Heart Association reported a meteoric rise of coronary artery disease morbidity and mortality in India. In the last 3 decades, coronary heart disease prevalence in India has increased by 300%. It has been predicted that cardiovascular disease will increase rapidly in India and to have more than half of all cardiovascular disease in the world in the next fifteen years. It is possible to prevent or delay metabolic syndrome, mainly with lifestyle changes. So, an early screening and detection with help to check the development of metabolic syndrome and thus the cardiovascular mortality and morbidity. Body Mass Index (BMI) is one of the largely used screening tool in identification of metabolic syndrome. It is calculated using weight and height and is given by a formula, weight in kilograms divided by height in meter-square but BMI fails to distinguish between body fat and muscle mass and thus has its drawbacks in predicting metabolic syndrome. Lipid Mass Index (BMI) is the simple and index of central lipid accumulation based on a combination of waist circumference (WC) and serum triglycerides (TG). It uses a physical and a simple laboratory parameter to predict the metabolic syndrome. It has given utmost importance to WC which is considered to be an integral and predominant determinant of cardiovascular outcomes. Thus LAP can be applied easily on a day today clinical practice to predict MS. At present, there are very limited number of studies from India regarding LAP as a screening tool for MS and its comparison with BMI in predicting MS.

**Methods:** One hundred patients with metabolic syndrome were included in study. Data was collected through a pre-designed questionnaire which included vascus parameters related to history, thorough clinical examination, and laboratory parameters. Further the patients were assessed for the body mass index (BMI) and lipid accumulation product (LAP). BMI and LAP then correlated with metabolic syndrome.

**Inclusion criteria**
- Patients with metabolic syndrome (IDF criteria)
- Age more than 18 years
- Hypolipidemic drug naive

**Exclusion criteria**
- Patients with abdominal distension secondary to pathological cause
- Patients who are pregnant
- Patients on lipid lowering agents

**LAP (lipid accumulation product)**
LAP was calculated using WC and fasting TG level using the following formula for men and women respectively:
- LAP = (WC - 65) X TG for men
- LAP = (WC - 58) X TG for women

**Statistical methods**
Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean±SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5% level of significance

**Results:** Our present study is conducted among the population meeting the IDF criteria of MS, with a mean age of 54.52±12.63 years and female predominance (54%). 72% and 62% of the study group had Diabetes Mellitus and Hypertension respectively. The mean BMI in our study is 29.04±5.11 kg/m2 with 25% of the population are non-obese. The average LAP value in our present study is 111.51±59.71 cm mmol/l and shown increasing trend with increasing age. LAP had a mean value of 85.19 cm mmol/l, 118.52 cm mmol/l and 122.37 cm mmol/l in the study population satisfying 3/5, 4/5 and 5/5 criteria of Metabolic Syndrome respectively. This shows LAP (P<0.001) has better correlation with MS when compared to BMI (P<0.001) in ANOVA test. In our present study, the presence of diabetes mellitus resulted in significant elevated LAP values i.e. 85.10±31.40 cm mmol/l among non-diabetics to 121.78±64.92 cm mmol/l among diabetics, which is of statistical significance (P value 0.005).

**Conclusion:** LAP showed strong positive correlation with Metabolic Syndrome and thus can be used as screening tool. LAP found to have much better correlation than BMI in predicting metabolic syndrome. LAP values positively correlated with increasing number of components of metabolic syndrome.

Role of Serum Troponin-I in Identifying Left Ventricular Ejection Fraction of <or= 40% in Patients with Acute Anterior ST Elevation MI

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**Introduction:** The measurement of cardiac biomarkers is an integral step in the management of patients with ischemic heart disease. Left ventricular function is the single best individual predictor of mortality after acute myocardial infarction. It has been shown that biomarkers predict left ventricular ejection fraction and help in the early identification of patients with poor LV function. Serum troponin-T concentration has been found to be inversely correlated with LVEF as a consequence of inverse relation between infarct size and LVEF. As primary Percutaneous Coronary Intervention (PCI) is now the preferred modality of reperfusion for acute STEMI, the role of cardiac enzymes in predicting infarct size and hence LVEF in patients undergoing primary PCI is uncertain. Levels of troponin-I and T can be used as a non-imaging modality to identify patients with LVEF of less than or equal to 40% for whom prognosis is poor and early aggressive therapy is beneficial.
A Study on the Prevalence of Cardiac Autonomic Neuropathy in Type2 Diabetes Mellitus and its Association with Other Microangiopathies

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Introduction: “Diabetes capital of the world” is India. Diabetic neuropathy is sequel of hyperglycaemia which affects both sensorimotor and autonomic nervous system. Cardiac autonomic dysfunction in type2 diabetes mellitus patients has been associated with increased morbidity, high risk of cardiac arrhythmias and sudden cardiac death. Studies in past revealed 34.3% of type 2 diabetes patients with cardiac autonomic neuropathy while in the present study it was found to be 37.4%. Cardiac autonomic neuropathy being the most overlooked complication and less number of studies were conducted in central India so it became the topic of interest for us. 

Materials: A prospective observational study was done on type 2 diabetic patients (as per American Diabetes Association criteria) on 100 patients in 2 years duration. Five cardiac autonomic test were applied on them 3 were parasympathetic test and 2 were sympathetic test. Outcome was measured by Ewing’s criteria in which 3 parasympathetic test i.e. valsalvaratio, deep breathing test, lying to standing test and 2 sympathetic test i.e. orthostatic hypotension and sustained handgrip test were done categorised as normal, borderline and abnormal. The result was statistically analysed and unpaired t-test, chi square test and ANOVAs test were applied so as to find association with microangiopathies and retinopathy.

Observation: The mean age of the patients was 52.48 with 57% being female and 43% male. 37% (n=100) patients had cardiac autonomic neuropathy associated with increased mortality, high risk of cardiac arrhythmias and sudden death being most common symptom. Cardiac autonomic neuropathy was statistically significantly associated with duration of disease (p=0.004). The mean urine microalbumin value between the two groups was higher in the positive group as compared to negative group P value was 0.006 which was statistically significant (p<0.05). On comparing the cardiac autonomic test result with the patients having diabetic retinopathy, out of 37% CAN positive patients 23(62.2%) were having diabetic neuropathy so positive correlation was seen with retinopathy.

Conclusion: Our study revealed prevalence of cardiac autonomic neuropathy to be 37% which was evaluated by cardiac autonomic function tests and it was positively correlated with duration of type2 diabetes mellitus. We also found statistically significant association with other microangiopathies including retinopathy and microalbuminuria.

Prognostic Significance of HbA1c Levels in Non-diabetic Patients with Acute Coronary Syndrome Attending a Tertiary Care Hospital
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Introduction: Coronary artery disease (CAD) is one of the leading causes of mortality and morbidity in the world which diabetes plays a major role. There is an exponential elevation of cardiovascular risk and complications with glucose status which also extends into the prediabetic state. HbA1c as an independent predictor of cardiovascular risks has been confirmed in diabetics and non diabetics by various studies. However little is known about its prognostic significance in non-diabetics CAD patients. Hence this study was conducted to ascertain clinical outcome and prognostic significance of HbA1c levels in non-diabetic patients with acute coronary syndrome (ACS).

A Prospective Study of Pulmonary Hypertension in Patients with Chronic Kidney Disease: A New and Pernicious Complication
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Introduction: Pulmonary hypertension (PH) is a recently recognized complication of chronic kidney disease (CKD), especially in end-stage renal disease. It has prevalence estimates of 30%—50% and is an independent predictor of increased mortality in CKD patients. The aim of this study is to analyze the prevalence of PH in patients with CKD, its severity in different stages of CKD, and risk factors for it.

Materials: 108 patients with CKD treated between January 1, 2014, and June 30, 2016, were selected. Clinical evaluation and relevant investigations including echocardiography were done. Followup echocardiography was done at 3 and 6 months and assessed.

Observations: The mean age of studied population was 43.53 ± 14.63 years. Sex ratio was 2:721 (M:F). PH was present in 47 of 108 (43.5%) cases at beginning, 41 of 83 (49.4%) at 3 months, and 32 of 64 (50%) at 6 months. The prevalence and severity of PH increased with progression of CKD stage, although not statistically significant. Heart failure with reduced ejection fraction and heart failure with preserved EF were significantly higher among PH group (38.3% and 95.7% respectively) compared to non-PH group (6.6% and 77% respectively) (p=0.01). Mean hemoglobin in PH group was significantly lower, compared to non-PH group (7.01±1.78 vs 8.20±2.11, p=0.003). Mean interdiastolic weight gain was higher among PH group than non-PH group. (2.91±1.62 vs 2.19±1.39, p=0.014). Higher calcium phosphate product ≥50 was more prevalent in PH group than in non-PH group, (31.9% vs 13.1%, p=0.05). Majority of them had moderate PH ath the beginning of the study which remained same, despite being on hemodialysis.

Conclusions: PH is a common complication in CKD patients with prevalence of 43.5%—50%. Left heart failure, anemia, fluid retention, and increased calcium-phosphate product are the risk factors for developing PH.

Keywords: Pulmonary hypertension, chronic kidney disease, ejection fraction, Calcium-phosphate product.
Material: 172 non-diabetic patients with ACS admitted in intensive coronary care unit of SS Medical College and SGMH Rewa during Feb 2016 to March 2016 were included in this observational cross sectional study. Diagnosis of ACS was based on ECG, Troponin T positivity, 2D Echocardiography. Based on HbA1c patients were divided into highrisk > 5.7 % and low risk < 5.7%. HbA1c at the time of admission was measured and its relation to Major Adverse Cardiovascular Events (MACE) in the form of Cardiovascular mortality, arrhythmias, cardiogenic shock or cardiac failure was assessed.

Observations: Among patients with ACS 71.5% were male and 28.5% were female. 22.7% were found to be hypertensive and 21.5% had BMI>25 kg/m² 76 out of the 172 participants had and HbA1c value above 5.7% (high risk group), of which 76 participants 55.6% (n=42) had cardiovascular complications. In the rest of the 96 participants with HbA1c less than 5.7% (low risk group) cardio-vascular complication were observed in 32.29% (n=31).

Conclusion: This study shows that non-diabetic patients with ACS are associated with poorer outcomes when they have higher pre-diabetic levels of HbA1c. Hence evaluation of baseline HbA1c should be considered as it can assist the clinician in predicting the complications and prognosis of the disease.

Prevalence and 2D Echocardiographic Color Doppler Assessment of Mitral Regurgitation in Acute ST-Elevation Myocardial Infarction

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Introduction & Objective: Acute mitral regurgitation is one of the mechanical complication of acute myocardial infarction. The aim of the study is to assess the prevalence of mitral regurgitation in acute ST elevation myocardial infarction and to compare the clinical profile and outcome of patient with and without mitral regurgitation.

Method: This hospital based cohort study, consist of 105 patients with first MI, which represent those without mitral regurgitation and group II, representing those with mitral regurgitation.

Result: During the study period, 105 patients were enrolled in the study (mean age 53 ± 11, 75.2% men). The incidence of acute mitral regurgitation was 54.3%. Forty eight patients (45.7%) had mild and nine patients (8.5%) had moderate mitral regurgitation. Out of 36 (34.3% of total) inferior wall myocardial infarction cases 22 (61.6%) had mitral regurgitation, while out of 67 (63.8%) Anterior wall myocardial infarction cases only 34 (50.7%) cases had mitral regurgitation. The analysis of association between age and presence of mitral regurgitation showed a positive correlation (correlation coefficient=0.29, p=0.003). There is no significant difference in clinical profile, co-morbidities, ejection fraction and mortality outcome at 30 days between the acute ST-elevation myocardial infarction patients with and without mitral regurgitation. It has been found that ischemic MR was more frequently associated with IWI cases (p=0.004). 4 (3.8%) cases died within one month, out of which 2 were having mitral regurgitation.

Conclusion: There is positive correlation between age and presence of mitral regurgitation in STEMI cases and the ischemic mitral regurgitation occurs more frequently with inferior wall myocardial infarction cases.

Clinical and Risk Factor Profiles in Young Patients with Acute Coronary Syndrome: An Observational Study

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Introduction: It is well said that “Today’s risk factors are tomorrow’s disease”. Acute coronary syndrome is an enduring and daunting healthcare problem in India. There are significant differences in the profile of coronary artery disease in India with respect to age. Indians develop acute coronary syndromes especially acute myocardial infarction at an age about ten years earlier than is seen in developed countries. Yet little is known of the profile and risk factors for Cardiovascular Disease in younger patients with ACS.

Objective: The purpose of the present study was to evaluate Clinical Presentations and Risk factors pattern in 16 to 45 years patients of Acute Coronary Syndrome

Material and Method: 154 participants were recruited from both patients and out patients aged 16-45 years attending our hospital between time periods of January 2016-June 2017. Risk factors, presenting symptoms and type of ACS were analyzed

Results: Initial presentation to the hospital was typical angina in 71.4%, atypical angina in 12.3%, dyspnea in 6.5%, cardiogenic shock in 6.5% and cardiac arrest in 3.2% of patients. The mean age of patients between 16-45 years was 40.3 years, 87% were men and 13% were women. Majority ACS patients are in overweight group. Family history of CAD was in 24%, diabetes 41.5%, hypertension 37%, history of dyslipidemia 46%, smoking tobacco use 38%, and sedentary habits in 28%. Discharge diagnosis was ST segment elevation myocardial infarction (STEMI) in 66%, non-ST segment elevation myocardial infarction (NSTEMI) 27% and unstable angina 7%.

Conclusion: Modifiable risk factors such as sedentary lifestyle, metabolic syndrome as well as conventional risk factors including family history continue to play a pivotal role in premature CAD in Indians. Primary preventive measures aimed at preventing our youth from adopting tobacco use should be implemented nationally.

Comparison of Clinical Profile and Prevalence of Dilated Cardiomyopathy in Patients Hailing from Rural Versus Urban Area-A Hospital Based Observational Study

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Introduction: Cardiomyopathies are one of the leading causes of Heart failure (HF) which remains the leading causes of morbidity and mortality despite optimal treatment. Dilated cardiomyopathy is the most common form of cardiomyopathy characterised by impaired contraction of left or both ventricles associated with systolic dysfunction and dilatation of cardiac chambers.

Aims: To do a comparative study of the clinical profile and prevalence of dilated cardiomyopathy in patients from rural versus urban population of Punjab.

Material & Methods: 115 Patients of either sex above 14 years of age admitted in, dept of medicine and cardiology of SGL hospital Garha road jalandhar, with signs and symptoms of heart failure and suspected to be having dilated cardiomyopathy (DCM) was selected for study. Those having Rheumatic, Congenital, hypertensive, pericardial and pulmonary heart diseases were excluded. Detailed identification of the cases, history and examination of all selected cases was done and recorded in the study proforma and pretested for the study. Routine investigation including 12 lead electrocardiograms, X-ray chest, transthoracic echocardiography (TTE) was done. Coronary angiography (CAG) was advised in all cases but was done only in those who could afford. Echocardiographic criteria as laid down by WHO; dilated cardiac chambers, Global hypokinesia, systolic dysfunction and LVEF<50. The period of study was 1 year, and results were statistically analysed.

Observations: Out of 115 consecutive cases studied Dilated cardiomyopathy was seen in 65 (56.6%) male and 50 (43.4%) female patients. So there was male preponderance as involvement of male sex was higher (56.6%) as compared to females (43.5%). The youngest patient was of age 20 years where as oldest was of 95 years with mean age being 60±14.6 year. mean age in males was 58.3 yrs and 63.04 yrs in females. Most of the patient were in the age group of 4th to 7th age group with majority 34 (29.6%)
of patients were in 61-70, 24(20.8%) and 23(20%) in age group of 51-60 and 41-50 respectively, which are 2nd and 3rd common age group. Similarly age group of 20-30 yrs male 1, 31-40 yrs had 11, 71-80 yrs had 9, 81-90 yrs had 12 and >90 yrs had 1 patients. In Age-sex wise distribution out of 34(29.6%) patients in age group 61-70, 21 were male and 13 females, similarly in age group 41-50 had 12 male and 11 females and group 51-60 had 16 males and 8 females. The prevalence of dilated cardiomyopathy was observed to be more in rural than urban area.

Shortness of breath was the most common presentation of dilated cardiomyopathy. Out of 115 cases 47(40.8%) of them belonged to NYHA class 3, of which 27 (44.2%) were from rural and 20 (37%) from urban area. Other common presenting symptoms were orthopnea and PND in 30(26.1%) each.

On ECG a low voltage graph was seen in 14(12.2%) of patients. Sinus rhythm with sinus tachycardia in 71(61.7%), AF in 18(15.6%), normal axis in 64(55.6%) while left axis deviation in 49(42.6%), LBBB in 23(20%), where as non specific ST and T changes were seen in 23(20%) of patients.

2D Echocardiographic studies revealed global hypokinesia of the left ventricle, dilated chambers with ejection fractions < 50% in all and severe left ventricular dysfunction (LVEF < 30%) was seen in 70(60.8%) patients, left ventricular dysfunction (LVEF <30%) and severity was more in patients hailing from rural 40(65%) than urban 30(55.5%) and also more in males 47(72.3%) than female 23 (46%). Mitral regurgitation(MR) was most common regurgitant valvular lesion and present in 86(74.8%) of total 115, out of which 46(75.5%) were from rural and 40(74%) from urban area, also more in males 50(76.9%) than females 36(57.2%). Tricuspid regurgitation (TR) was present in 56(48.6%) patients and was more in rural 33(54%) than urban 23 (42.5%), gender wise more in males 30(46.1%) than female 27(54%).

In this study of 115 patients, no known cause of dilated cardiomyopathy could be established in 43(37.3%) with 9 male (13.8%) and 34 females (68%). Idiopathic dilated cardiomyopathy was slightly more in patients from rural 22(51.1%) than urban 21(48.8%). Amongst all the cases studied history of alcohol intake more than 80g/day for more than 5 years was only in males 34(29.5%). Alcohol with DM comprised 11(9.5%).So alcoholic dilated cardiomyopathy was 2nd most common aetiology in our study, and was more common in rural 20(58.8%) than urban 14(41.1%). DCM due to both alcohol and DM were 7(63.6%) from rural and 4(36.3%) from urban. DM was main etiological factor in 25 (21.7%) with more in female 15(30%) than males10(15.3%), also more in urban cases 15(60%) than rural 10(40%). Dysthryoid state comprises 2(1.7%) hailing from rural area.

Conclusions: In the present study prevalence of Dilated cardiomyopathy (DCM) was found to be more common in males in 4th to 7th decade and also more inrural than urban. Presenting symptoms were Shortness of breath, orthopnea, PND, palpitation, Rhythm and conduction disturbance on ECG. Alcohol intake in males and diabetic mellitus were one of the most probable identified aetiology but idiopathic DCM remains the most common. Dilated cardiac chambers,systolic dysfunction with low EF<50%, with regurgitant lesion in form of MR and TR the most consistent echocardiographic findings in DCM. So in patients of HF regular screening with 2D Echocardiography is important and cost effective method for early detection of DCM to prevent complications.

Association of Glycated Albumin and Glycosylated Hemoglobin with Short Term Outcome in Patients with Myocardial Infarction
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Introduction: Glycated albumin (GA) is an advanced glycation end product formed in hyperglycemic states and used as a marker for short term glycomic control, in experimental studies. The short term glycomic control may be a better predictor in the outcome of acute MI. So we planned a study to find out the association of glycated albumin and glycosylated hemoglobin (HbA1C) with short term outcome in patients with acute myocardial infarction with and without diabetes.

Methods: In this case control prospective study, we enrolled a total of 90 patients diagnosed with acute myocardial infarction (MI), who were admitted in cardiac care unit of our hospital. These patients comprised of equal number of diabetic and non-diabetic of both the sexes. Based on clinical findings, ECG and/ or cardiac enzymes, short term outcome, in terms of recovery, complications, or referred for PCI/ CABG, were assessed over the next 5-7 days post MI. The relationship between GA and HbA1C with short term outcome was analyzed.

Results: After 5-7 days, it was found that 50 patients (55.6 %) recovered, 10 (11.1%) were referred for urgent PCI/ CABG and 30 (33%) suffered complications. The short term complications occurred more frequently in diabetic patients (p<0.001). GA had a positive correlation with HbA1C (r=0.834, p<0.001) for all the patients. Both GA and HbA1C were found to have a significant association with short term outcome in the study group (p<0.001).

Conclusion: Patients with MI, who suffered complications, had higher values of GA and HbA1C compared to those who did not and an association with short term outcome in acute MI was observed. There was a positive correlation between GA and HbA1C in these patients.
treatment has shown to be curative in these patients or prevent further attacks in the same patient.

Case Report: Hereby, we present a rare case of a 32 year old female in postpartum (25 days of delivery) in state of intense emotional stress presented with orthopnea, chest discomfort for 1 day with systolic murmurs in mirtal area. Clinical diagnosis of LVF. Echo findings suggestive of apical ballooning of left ventricle.

Conclusion: The type of stress CMP, rare disorder, frequently seen in post menopausal females. With increasing stress levels in current scenario, the cause and treatment of this condition needs to be studied and required to be shed light on.

Key Words: Cardiomyopathy, Takotsubo, Apical ballooning, LVF.

Diabetes

Utility of Urinary Biomarkers as a Diagnostic Tool for Early Diabetic Nephropathy in Patients with Type 2 Diabetes Mellitus

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Introduction: Renal tubulo-interstitial damage has an important role in the pathogenesis of early diabetic nephropathy. Urinary biomarkers can help in the detection of early nephropathy in type 2 diabetic patients. The objective of this study was to estimate the levels of urinary neutrophil gelatinase associated lipocalin (NGAL) and cystatin-C in type 2 diabetic patients with early diabetic nephropathy & to compare them with diabetic patients without nephropathy and to correlate urinary NGAL and cystatin-C levels with albuminuria in them.

Material: This was a cross-sectional comparative study conducted in the Medicine OPD and Diabetes Clinic of a tertiary care hospital over a period of 18 months. 126 patients with type 2 diabetes along with 30 control subjects were included. Patients with thyroid disease, on steroids or nephrotoxic drugs, angiotensin receptor blockers (ARBs) and with systemic arterial hypertension were excluded. There were 3 study groups-diabetic patients with microalbuminuria, diabetic patients without albuminuria and control subjects who were non-diabetic without any renal disease. Details on duration of diabetes and glycemic status were obtained from the patients. Urine examination was done for subjects in all the groups to look for proteinuria. Urine examination was done and glycemic status were obtained from the patients. Urine examination was done for subjects in all the groups to look for proteinuria. Urine samples were stored at -20˚C in the deep freezer.

Observations: 156 patients were studied out of which 30 were control subjects. 84 were males and 72 were females. Duration of diabetes (9.15 years vs. 3.95 years) and glycosylated hemoglobin levels (9.17% vs. 7.41%) were higher in diabetic patients with microalbuminuria as compared to those without albuminuria. Urinary NGAL and cystatin-C levels were significantly elevated in patients with microalbuminuria (228.18 & 3.23 ng/ml) as compared to those without albuminuria (146.12 & 2.61 ng/ml) and in control subjects (228.18 & 3.23 ng/ml).

Conclusion: Urinary NGAL and cystatin-C levels showed a linear correlation with microalbuminuria in diabetic patients. Urine NGAL was found to have 82.5% sensitivity and 72% specificity in identifying early diabetic nephropathy for a cut-off value of 146.28 ng/ml. Urine cystatin-C was found to have 81% sensitivity and 62.4% specificity in identifying early diabetic nephropathy for a cut-off value of 2.26 ng/ml.

Diabetic Foot Risk Assessment Score (DIAFORA) - A Tool for Predicting Diabetic Foot Amputation

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Introduction: Diabetic foot is the most dreadful complication of prolonged hyperglycemia. American Diabetes Association defines chronic diabetic foot ulcers a wound failing to heal after 4 weeks. It is estimated that a limb is lost to diabetes in the world every 30 seconds; however 85% of all amputations are preventable. In India, the prevalence of diabetic foot varies from 7.4-15.3%.

Material: With this background we studied a scoring system Diabetic Foot Risk Assessment Score (DIAFORA). It classifies subjects with diabetic foot into 3 classes-predictors lower limb amputation. In an observational study various parameters like neuropathy, peripheral arterial disease, foot deformity and previous foot complications, multiple diabetic foot ulcer, infection, gangrene and bone involvement in addition to basic investigations like fasting and post prandial sugars, glycosylated haemoglobin (HbA1C), culture from the wound site, X-Ray and Doppler if necessary were included. Each parameter was given a score and patients were classified into 3 risk groups (low/medium/high) for amputation according to the DIAFORA score. After 90 days, subjects were examined for healing, lower extremity amputation and death.

Observation: Mean age of study subjects was 55.38 +/- 11.0 years with 41 males to 8 females. As per DIAFORA Score, 30 cases were in high risk group and amputation was required in 21 (70%) of them while no amputation was required in any of the 15 cases of low risk group (OR – 63.35; CI – 3.5-1156.0). Mean HbA1c in the amputated group was 8.85 +/- 2.35. This model had an area under the ROC curve of 0.809 ([CI] 0.68-0.93).

Conclusion: DIAFORA score correlates with our aims and outcomes of predicting lower limb amputation in high risk patients. We recommend the use of DIAFORA score in the post clinical practice for Indian diabetic population to prevent amputations with stringent control of hyperglycemia.

Assessment of Adherence, and Outcomes of Increased Adherence to ADA Guidelines in the Management Hyperglycemia

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Introduction: Hyperglycemia is a common comorbidity in medical and surgical patients. Although a number of guidelines have been published addressing the management of hyperglycemia in hospital settings, extent of adherence to these guidelines in clinical practice is low. American Diabetes Association(ADA) is a professional body which addresses these issues regularly. So as an investigator we decided to observe the extent of adherence to these guidelines, to address the shortcomings by means of intervention at treating physician level and to see the outcome changes.

Materials: We conducted a Quasi-experimental pre and post test study in the medical ward and ICU of a tertiary care hospital in New Delhi. We observed the hyperglycemia management practices in 100 hospitalised patients(50 in each group). In the pre-intervention phase we observed the guideline adherence prospectively, by means of a predesigned proforma. In the intervention phase all the resident doctors were reinforced with standard guidelines, and shortcomings in the current guideline practice were stressed by means of audio visual methods and workshops. In the post intervention phase increase in adherence to guidelines, and outcome changes were measured.

Results: In the pre intervention phase the overall adherence to guidelines was low (36%). There was significant use of sliding scale/pre mixed insulin in the pre intervention phase. There was 22% increase (P<0.01) in adherence to guidelines in the post-intervention phase. The mean daily blood sugar levels decreased by 18mg/dl(P<0.01), and there was significant decrease in rate of severe hyperglycemia, a blood sugar of >250mg/dl(19.95 ± 7.76 % vs 13.94 ± 6.26 %, P<0.01). There was
Early Detection of Diabetic Nephropathy Using Urinary Podocyte Markers

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Introduction: Diabetic Nephropathy is a frequent and serious complication of DM. Its diagnosis at incipient stages may allow prompt interventions and an improved prognosis. Towards this aim biomarkers for detecting early Diabetic Nephropathy can be used. Microalbuminuria has been proven a remarkably useful biomarker, being used for the diagnosis. Recent studies have shown dysregulation of nephrin in podocytes in Diabetic Nephropathy preceding microalbuminuria.

Material: Urinary nephrin and podocin levels were measured in 31 normoalbuminuric (ACR<17mg/gm) in males, <25mg/gm n females) type2 DM patients and 34 healthy controls by an enzyme linked immune sorbent assay (ELISA) sciences.

Observations: Nephrinuria(NCR>0.1 mg/gm) was found to be present in 41.9% of normoalbuminuric type2DM patients and none in the control group. Podocinuria was found in 29.0% of normoalbuminuric type2DM and none in the control group. There was no significant correlation between HbA1c levels, duration of DM and podocyte excretion in urine.

Conclusion: The finding that nephrinuric and podocinuria is observed in a majority of these normoalbuminuric type2DM patients demonstrates that it may precede microalbuminuria. If further research confirms nephrinuria and podocinuria to be biomarkers of preclinical Diabetic Nephropathy, it will shed light on podocyte metabolism and may help in defining new and earlier therapeutic targets.

Endocrinology

Study of Cognitive Functions, Oxidative Stress and Inflammation in Patients of Metabolic Syndrome

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Introduction: The metabolic syndrome (MetS) is a cluster of the most dangerous cardiovascular risk factors: diabetes and raised fasting plasma glucose, abdominal obesity, high cholesterol and high blood pressure and high insulin resistance. Certain studies show correlation of cognitive dysfunction with components of metabolic syndrome in limited no of patients, yet a clear association between the two has not been established. Positive cognitive changes have been seen with some interventions targeting MetS components. Most studies report that Met S and its components have a negative impact on cognition. However, findings may vary by sex, with men being more affected in some reports women in others, and some reporting no sex differences.

Material: The screening was done for patients of metabolic syndrome according to international diabetes federation guidelines and all subjects who are able to read and write Hindi and English and were above 18 years of age were included. Patients with psychiatric illness, stroke, Neurological disorders, critically illness and indication of infection, systemic inflammation and trauma were excluded. Cognitive functions were assessed by montreal cognitive assessment test and pgi memory scale while oxidative stress and inflammation through hscrp, mda, sod, gsh in a cross-sectional study including 100 patients.

Observation: so far 50 patients are taken in which there was positive relation found between impaired cognitive functions, oxidative stress and inflammation with metabolic syndrome.

Conclusion: The present study shows impairment of cognitive functions in patients of metabolic syndrome and there is increase in both oxidative stress and inflammation, concluding that inflammatory pathways and oxidative stress is involved in impaired cognitive functions in metabolic syndrome.

Mild Cognitive Impairment in Non- Elderly Adults with Diabetes Mellitus and its Correlation with Duration, Glycemic Control, BMI and Various Components of Lipid Profile in a Tertiary Care Centre Bikaner
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Introduction: Mild cognitive impairment (MCI, also known as incipient dementia, or isolated memory impairment) is a brain function syndrome involving the onset and evolution of cognitive impairments beyond those expected based on the age and education of the individual, but which are not significant enough to interfere with their daily activities. It is often found to be a transitional stage between normal aging and dementia.

The deleterious effects of diabetes mellitus (DM) on the retinal, renal, cardiovascular, and peripheral nervous systems are widely acknowledged. Less attention has been given to the effect of diabetes on cognitive function. Both type 1 and type 2 DM have been associated with reduced performance on numerous domains of cognitive function, a process often termed as “Diabetic encephalopathy”. The exact pathophysiology of cognitive dysfunction in diabetes is not completely understood, but it is likely that hyperglycemia, vascular disease, hypoglycemia, and insulin resistance play significant roles. The magnitude of these cognitive deficits is mild to moderate, but it is important to stress the clinical relevance of even mild forms of cognitive dysfunction that might hamper day to day activities since they can be expected to present problems in more demanding situations. A growing group of evidence suggests that diabetes is associated with lower levels of cognitive function and may be a risk factor for the development of MCI and dementia. It is reported that a diagnosis of diabetes increased the odds of cognitive decline 1.2 fold and future dementia 1.6 fold.

To Evaluate Serum Resistin & HsCRP as a Risk Factor in Type 2 DM Patients with Acute Myocardial Infarction or Acute Ischemic Stroke

Bhaskar Prakash Gowd Pamarthi, BJ Subhash Chandra
JSS Hospital, Ramanuja Road, Mysore, Karnataka

Aims: To assess the serum resistin and HsCRP levels in Type 2 DM patients with acute myocardial infarction or acute ischemic stroke.

Methods: 90 patients who fulfilled the inclusion and exclusion criteria were selected and divided into 3 groups of 30 each, one group has 30 patients of Type 2 DM without AMI/AIS (age and sex matched controls), second group has 30 patients of Type 2 DM with AMI and third group has 30 patients of Type 2 DM with AIS. All these patients were with Type 2 DM with M1 / IS along with controls were subjected to serum analysis of resistin and hs-CRP by ELISA using commercially available kits. Serum resistin and Hs-CRP levels along with basic investigations were compared.

Results: In our study, serum resistin levels were significantly higher in Type 2 DM with AMI compared to subjects of Type 2 DM without AMI/AIS and Type 2 DM with AIS. No significant correlation exists between serum resistin and HsCRP levels in the study group. In our study serum resistin levels haven’t shown any prognostic significance.

Conclusion: In our study, we conclude that high plasma resistin levels may be associated with an increased risk of MI but not with risk of IS. Whereas elevated HsCRP levels are associated with increased risk of MI as well as IS. Further studies are needed to evaluate the predictive value of plasma resistin levels for cardiovascular disease.

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With cognitive aging as a continuum, people with diabetes have been found to experience accelerated cognitive decline within a dementia-free range of between 20% and 50% and recent reports have suggested a role of midlife (rather than late life) diabetes in particular in promoting this cognitive dysfunction.

The current study will examine associations between duration of diabetes, glycemic control, lipid profile and assessments of general health, physical and cognitive function of non-elderly diabetics.

**Methods:** All the subjects included in the study were interviewed regarding age, gender, education level, duration and type of diabetes, history of smoking, history of alcohol abuse, sleep status (sleepless or not), history of hypertension, and dyslipidemia using a predesigned and pretested performance. Medication history regarding the use of lipid-lowering medications, anti-diabetes medications, antihypertension medications, antiplatelet medication or any drug causing cognitive impairment will be recorded through questionnaires and pill bottle reviews.

Patient’s aged 15-60 years of age, who are either known or recently diagnosed to have as diabetes (According to ADA 2013 guidelines) and were willing to participate were included in the study. Patients who were seriously ill on long-term corticosteroid therapy, with a thyroid disorder, had suffered cerebrovascular accidents, known case of hypertension or recently diagnosed as hypertensive, having spine deformities, pregnant females/lactating females, on drugs like Benzodiazepines, opiates, tricyclic antidepressants, corticosteroids, and anticoagulants in previous 6 months, suffering with chronic diseases like chronic liver disease and chronic kidney disease or having history of auditory disorders and psychological disturbances, which might interfere with the MoCA test etc. were excluded from the study.

For assessment of cognitive functions; we used Montreal cognitive assessment score (MoCA version 7.1) which was designed as a rapid screening instrument for MCI. It assesses different cognitive domains: attention and concentration, executive functions, memory, language, visuoconstructional skills, conceptual thinking, calculations, and orientation. It has been tested in 14 different languages, age ranging from as young as 49 in two reports to old (85+) with a variety of education levels. Time to administer the MoCA is approximately 10 minutes. The total possible score is 30 points; a score of 26 or above is considered normal.

To better adjust the MoCA for lower educated individuals, 2 points should be added to the total MoCA score for those with 4-9 years of education and 1 point for 10-12 years of education (Johns et al, 2010).

**Statistical Analysis:** The data obtained was tabulated on Microsoft Excel spreadsheet. Categorical data was expressed as rates, ratios, and percentages. Continuous data was expressed as mean ± standard deviation (SD). Pearson’s Correlation coefficient (r) was used to assess the correlation between lipid profile and various domains of cognitive impairment. SPSS 17 trial version software was used for analysis.

**Observations:** In the present study we included 98 type 1 diabetics and 214 type 2 diabetics. Out of total 98 type 1 diabetic, 70 had MCI (MoCA score < 26) while 28 diabetics do not have MCI (MoCA score ≥ 26) whereas as out of 214 type 2 diabetics, 178 and 36 diabetics were with and without MCI (MoCA score < 26 and ≥ 26) respectively.

On applying chi-square test, the difference was found statistically significant (p<0.05) i.e. although cognitive dysfunction was present in both type 1 and 2, it was more frequently observed in type 2 diabetics.

The mean duration of diabetes in type 1 diabetics with MCI was 14.42±2.19 years and in diabetics without MCI, it was 10.33±9.01 years. The mean duration of diabetes in type 2 diabetics with MCI was 8.42±5.56 years and in diabetics without MCI, it was 6.32±3.85 years. On applying student ‘t’ test, the difference was found statistically significant (p<0.05).

The mean BMI in type 1 diabetics with MCI was 21.37±3.11 kg/m² and without MCI was 20.64±4.71 kg/m² which was statistically insignificant.

The mean BMI in type 2 diabetics with MCI was 27.66±5.77 kg/m² and without MCI was 22.80±4.56 kg/m² which was statistically significant (p<0.001).

Mean HbA1C of type 1 diabetics with MCI was 8.67±2.20% and 7.07±0.73% in diabetics without MCI. Mean HbA1C in type 2 diabetics with MCI was 8.46±1.34% and in diabetics without MCI mean HbA1C was 7.49±0.71%.

On applying student ‘t’ test, this difference was found to be highly statistically significant (p<0.001).

Among various components of lipid profile MCI scores correlated with elevated TC, TG, LDL and VLDL. These values were statistically significant.

**Discussion:** It was seen the type 2 diabetics were more prone to develop cognitive impairment as compared to type 1 diabetics. Degree of cognitive impairment were almost similar in both male and female diabetics, thus obliterating the impact of gender on development of MCI. On evaluation of their metabolic profile and cognitive functioning; it was seen that duration of diabetes played a significant impact on the cognitive functioning of the patients. Type 2 diabetics developed MCI with a mean duration of 8.42±5.56yrs, whereas as type 1 developed MCI with a mean duration of 14.42±8.19yrs.

Hyperglycemia played a significant impact on cognitive functioning i.e. diabetics with poor glycemic control were more prone to develop MCI. Although type 2 diabetics had more metabolic derangements, hypercholesterolemia was more prevalent in type 1 diabetics. Raised TC, TG, LDL and VLDL emerged as a risk factor for the development of MCI. HDL although a protective cholesterol didn’t seem to have any impact on cognitive functioning and thus future studies are indicated to determine its impact on MCI.

On comparisons of various affected domains of cognitive functioning, it was observed that type 2 diabetics had cognitive impairment in more domains as compared to type 1 diabetics. It was seen that attention was predominantly affected in both type of diabetics as compared to other domains of cognitive impairment (p<0.001). Although visuospatial/executive functioning were minimally affected in type 1 diabetics (p>0.05) but they were significantly impaired in type 2 diabetics (p<0.05).

To conclude, this study indicated that even non elderly diabetics suffer significant cognitive impairments that are associated with poorer metabolic control. Cognitive dysfunction should be low on the list of the many complications of diabetes, along with retinopathy, neuropathy, nephropathy and cardiovascular disease in the future. These findings provide insight into the pathophysiology of different types of cognitive impairment and possible therapeutic avenues.
Results were analyzed with appropriate parameters and other appropriate centre of Upper Assam for a duration of 1 studies were conducted in a tertiary care undergoing immunosuppressive therapy. patients with rheumatoid arthritis (RA) had a long duration of disease only 3 patients were positive for OBI. These HBsAg infected with OBI. of patients of liver cirrhosis with negative infection, patients on hemodialysis, HIV at high risk of parenterally transmitted prevalence seems to be higher among subjects at high risk for HBV infection and with liver disease. Prevalence of OBI has been investigated in populations like: patients with liver disease, patients at high risk of parenterally transmitted infection, patients on hemodialysis, HIV infected individuals and apparently healthy individuals. Objectives: To find out the proportion of patients off liver cirrhosis with negative HBsAg infected with OBI.

To find out the proportion of OBI in patients with rheumatoid arthritis (RA) undergoing immunosuppressive therapy.

Materials and Methods: 2 Observational studies were conducted in a tertiary care centre of Upper Assam for a duration of 1 year on two groups more than 13 years of age 1. having cirrhosis of liver and HBsAg negative and 2. RA undergoing immunosuppressive therapy.

History, clinical examination, laboratory parameters and other appropriate biochemical and serological tests were noted. Results were analyzed with appropriate statistical tests

Results: Out of 100 cases of cirrhosis, only 3 patients were positive for OBI. These patients had a long duration of disease prior to detection of OBI and had LFT and INR value within the mean and SD values. All 3 OBI patients had positive history of blood transfusion. Out of 107 patients of RA receiving immunosuppressivetherapy (methotrexate, steroids, rituximab), no patient was positive for OBI.

Conclusion: In our studies, there is no risk of OBI in immunosuppressed patients. Cryptogenic cirrhosis patients may have OBI. The presence of OBI is significant in that it might favour the progression of liver fibrosis and the development of HCC in patients with additional causes of liver damage. OBI may become reactivated when an immunosuppressive state occurs. However, extensive studies are required in this field to define the precise prevalence of OBI and the need for antiviral therapy.

Evaluation of Loop-Mediated Isothermal Amplification (LAMP) for Diagnosis of Amoebic Liver Abscess Dipti Handa, R Singh, R Sehgal Dayanand Medical College and Hospital, Ludhiana, Punjab

Introduction: Amoebiasis is the commonest and the longest known intestinal infection. It manifests as asymptomatic infection to invasive extra-intestinal disease e.g. amoebic liver abscess (ALA). The causal organism is Entamoeba histolytica. It has a worldwide prevalence of 10%-50%. Its prevalence in India is 3-9% of all cases of amoebiasis. Routine diagnostic investigations like ELISA usually lack specificity for confirmatory diagnosis of amoebic liver abscess and result in false positive cases. LAMP has high sensitivity and specificity for the diagnosis of ALA. Due to its simplicity of operation and cost effectiveness it can be used as a point of care test in resource- poor developing nations like India.

Material: All patients above the age of 18 years with clinical features of pain and tenderness in the right upper quadrant of abdomen, hepatomegaly and/or fever and with radiological evidence of abscess in liver parenchymal tissue were included. Patients had positive amoebic serology.

Observation: The M:F ratio of the recruited patients was 15.6:1. Out of the 59 positive samples, 46.6% of samples showed positive results, 53.4% of samples showed LAMP positive results and RT-PCR negative results and 1.3% samples showed RT-PCR positive and LAMP negative results. Detection of ALA by LAMP was statistically better when compared to RT-PCR.

Conclusion: Due to high sensitivity, specificity, rapidity and ease of operation and cost effectiveness, LAMP assay evaluated in our study came out as an effective diagnostic tool for patients with ALA when applied on DNA of liver aspirates.

Geriatrics

A Prospective Study of Thyroid Function Test in Geriatric Population and its Clinical Correlation Natasha Madkaikar, Anjali Metgudmath Jawaharlal Nehru Medical College, KLE university, Nehru Nagar, Belgaum 590010, Karnataka

Introduction: Thyroid gland functioning is very important for human body. After diabetes, thyroid dysfunction is a common endocrine disorder, especially in the elderly, with a 2 to 5% prevalence of clinically significant disease reported in geriatric institutions. Hence there is a need for early diagnosis and studying various factors responsible for thyroid dysfunction in elderly to improve quality of life.

Material: This study was intended to study the thyroid functions in geriatric age group and their clinical correlation. A sample size of 75 patients aged above 60 years with clinical suspicion of thyroid disorder coming for check-up in medicine and geriatric OPD were selected. Further they were subjected to a detailed clinical examination and thyroid function testing (T3, T4 and TSH) by biochemical means. Those who were found to have altered thyroid functions were subjected for thyroid protein antibody (TPO) testing.

Observation: Total of 75 patients aged above 60 years were included in study. Thyroid function test was altered in 22 patients (29%), out of which overt hypothyroidism was seen in 11 (14.6%), subclinical hypothyroidism in 5 (6.6%), hyperthyroidism in 4 (5.3%), and subclinical hyperthyroidism in 2 (2.6%). In this study 52 patients were female and 23 were male. It was observed that females (21.3%) had higher incidence of thyroid dysfunctions as compared to males (8%). TPO antibodies were positive in all hypothyroidism cases suggestive of autoimmune cause as age advances. Lipid profile was seen altered in thyroid disorders.

Conclusion: Thyroid disorder is common among elderly females as compared to male. Hypothyroidism is more common compared to hyperthyroidism. Thyroid dysfunction is associated with altered lipid profile. Thyroid disordered should be ruled out in all symptomatic elderly patients.
A Study of Magnitude of Zinc Deficiency and its Effects on the Clinical Manifestation Among Elderly

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Introduction: Zinc is an essential trace element and constituent of many metalloenzymes required for normal body metabolism. It plays an important role in the transcription factors, maintaining normal immune mechanism, fighting oxidative stress, co-factor of many enzymes.

Zinc is found in sufficient amounts in animal based diet. But for those people who depend on plant based diet like grains, legumes contain very little amount of zinc which is not sufficient for the body.

Zinc deficiency leads to scaly rash around mouth, hands and groin and many conditions like diarrhea, loss of appetite, infections, hair loss and poor wound healing.

There were not much studies published in India regarding zinc deficiency in elderly.

Objectives of the Study:

a. Assess the magnitude of zinc deficiency among elderly patients.
b. To assess the relationship between zinc status and inflammatory marker (ESR) among elderly.

Materials and Method: Patients admitted into/followed up on OPD basis department of General Medicine, J.S.S. Hospital, Mysore.

Method of Collection of Data: 75 patients admitted into/followed up on OPD basis in Department of General Medicine who fulfill the inclusion criteria and Mini Nutritional Assessment scale are taken and serum zinc, albumin, cholesterol and ESR are estimated.

Inclusion Criteria:

Elderly of Both Gender

Exclusion Criteria:

<65 Years

Elderly not able to comprehend

Who are already on Zinc supplementation

Not giving willingness for the investigations.

Elderly who are at risk of Zinc toxicity like gastric irritation, abdominal pain, anaemia, dizziness, nausea and vomiting

Results: In the present study conducted, we have collected 75 patients greater than 65 years till date in a span of 10 months. 37 were males and 39 were females. All the 75 patients were taken after assessment on KATZ scale, Mini nutritional assessment scale and GDS score. Baseline level of zinc was taken as 10 micromole/L.

Out of 75 patients, 46 patients (61.33%) were found to be deficient in zinc. In these zinc deficient patients the other parameters were calculated.

40 (86.95%) out of 46 patients were suffering from depression according to GDS scoring.

Clinical manifestations like oral ulcers, diarrhea, hair loss, loss of appetite, poor vision was high among zinc deficient elderly.

19 (41.33%) patients were found to be deficient in serum albumin. ESR was increased in 44 (95.65%) patients indicating some underlying infection or inflammation.

Zinc and High density lipoprotein were found to have a positive correlation. 26 (56.52%) out of 46 zinc deficient were also found to be low in HDL. Zinc was having negative correlation with LDL and triglycerides. LDL was high in 22 (47.82%) zinc deficient patients. 20 (43.47%) patients with zinc deficiency were having high triglyceride levels.

Conclusion: There is a significant correlation between zinc deficiency and severe illness in elderly as zinc is an important co-enzyme in normal metabolism of many enzymes in the body for proper functioning of human and healthy aging process. Zinc deficiency also has a role in affecting the lipid profile of the patients. Deficiency of zinc has led to rise in inflammatory markers which correlates with underlying infection.

Study of Risk Factors of Mild Cognitive Impairment in Elderly Patients with Type 2 Diabetes

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Introduction: An association between T2DM and cognitive impairment has been reported but data is limited. We investigated the cross-sectional association between various physical and biochemical parameters and mild cognitive impairment (MCI) in elderly type 2 diabetic patients.

Objective: To identify risk factors of mild cognitive impairment among elderly patients with type 2 diabetes mellitus.

Materials and Methods: 200 type 2 diabetic patients (sample size as given by statistician) aged 60 years and above were enrolled in the study. Mild cognitive impairment (MCI) is detected among them using Montreal Cognitive Assessment (MoCA) score. Detailed history is taken and examination is done. BMI, Waist to hip ratio and BP are recorded & Hba1c and lipid profile are measured for all the subjects.

Observations: Patients are aged between 60 - 72 years with mean age of 68 years. 116 (58%) patients have MCI (MoCA <26) and is 42% do not have MCI. We compared with the patients without MCI, patients with MCI had longer duration of diabetes, associated hypertension, higher levels of non HDL, total cholesterol, total triglyceride levels and lower HDL levels. There is no significant difference in duration of hypertension, BMI values, HbA1c and levels between both groups. MoCA scores were negatively correlated with the history of hypertension (r = -0.23, p = 0.002), duration of diabetes (r=0.17, p=0.044) and non HDL cholesterol (r = - 0.78 p = 0.001). Multiple regression analysis showed that history of hypertension (beta = -0.27 p=0.002) and non HDL (beta = -0.3 p=0.01) were significantly independent determinants of MoCA score.

Conclusion: These findings can be used in the management of cognitive impairment in diabetic patients. The study suggest that control of blood pressure and lifestyle changes can reduce risk of MCI development in diabetic patients.

Myocardial Injury in Critically Ill Elderly Patients with Non-Cardiac Diagnosis at Admission

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Introduction: Critically ill elderly patients are at high risk for myocardial ischemia because of older age, increased intrinsic and extrinsic sympathetic stimulation, hypoxia, vasopressor use, and coagulation disorders. In clinical practice, the diagnosis of myocardial injury in ICU patients is complicated by frequent absence of clinical symptoms and presence of confounding co morbidities. So Myocardial injury (MI) in critically ill patients is a diagnostic challenge and is associated with adverse outcome for the patient. The presence of elevated troponin T levels, in addition to ECG changes, may help to make a decision to rule in or out myocardial injury. So the aim of this study is to study the clinical profile of patients developing myocardial injury assessed by raised cardiac troponin T, ECG findings in critically ill elderly patients admitted to ICU for non-cardiac diagnosis.

Materials and Methods: The study subjects are minimum of 128 patients calculated using N-MASTER software with confidence interval of 95% and absolute precision of 6%, admitted to medical ICU in RAMAIAH HOSPITAL during the study period of July 2016 to August 2017.

Observation: 130 elderly patients admitted to ICU with multiple comorbidities were studied. The study revealed that they are at risk of myocardial injury based on the results that 35 out of 130 (26.9%) patients developed acute myocardial injury. 13 (37.1%) out of 35 patients who had myocardial injury had fatal outcome.
Acute episodes of OHE are missing. We (LOLA) acts through mechanism of substrate are associated with significant morbidity hepatic encephalopathy (OHE) in cirrhotics. Ludhiana Dayanand Medical College and Hospital, Omesh Goyal, Harsh Kishore, Navpreet Kaur Sandeep S Sidhu, BC Sharma, Hepatic Encephalopathy: A Randomized H-ornithine L-aspartate in Acute Overt HEPATOLOGY L-ornithine L-aspartate in Acute Overt Hepatic Encephalopathy: A Randomized Placebo Controlled Trial Omesh Goyal, Sandeep S Sidhu, BC Sharma, Omesh Goyal, Harsh Kishore, Navpreet Kaur Dayanand Medical College and Hospital, Ludhiana

Introduction: Acute episodes of overt hepatic encephalopathy (OHE) in cirrhotics are associated with significant morbidity and mortality. L-Ornithine L-Aspartate (LOLA) acts through mechanism of substrate activation to detoxify ammonia. High quality data on efficacy of LOLA in cirrhotics with acute episodes of OHE are missing. We aimed to evaluate the efficacy of intravenous LOLA in reversal of acute episode of OHE in cirrhotics.

Methods: In this prospective double-blind randomized placebo controlled trial conducted at two tertiary care institutes in India, 370 cirrhotics with acute OHE were screened. After exclusion, 193 (52.16%) patients were randomized to receive either intravenous infusions of LOLA (n=98), 30 grams daily or Placebo (n=95) for 5 days. Standard of care treatment (including Lactulose) was given in both groups. Randomization was done centrally through the http://www.sealedenvelope.com. All study personnel were blinded to the treatment assignment. Fasting venous ammonia levels were estimated daily from 0–5 days. Serum Tumor Necrosis Factor alpha and Interleukins were performed at day 0 and 5. Primary outcome was mental state grade at day 5 of treatment.

Results: The grade of OHE was significantly lower in the LOLA group (compared to placebo) from day 1 to 4, but not on day 5. The mean time taken for recovery was significantly lower in LOLA group compared to placebo group [1.92±0.93 days vs. 2.50±1.03 days, p=0.002 (95% CI -0.852 to -0.202)]. Venous ammonia at day 5 and length of hospital stay were significantly lower in LOLA group. No significant change was seen in Interleukins and TNF alfa in both groups.

Conclusion: In patients with acute OHE, intravenous LOLA (compared to placebo) significantly improves the grade of OHE over days 1-4, but not on day 5. Patients who receive LOLA have significantly lower venous ammonia levels, significantly decreased time of recovery and shorter length of hospital stay.

Respiratory Muscle Strength in Patients of Cirrhosis Liver and its Correlation with Severity of Liver Disease Priyanka Singh, G Kampani, MK Sen VMMC and SJH, New Delhi

Introduction: Cirrhosis of liver is described as diffuse process with fibrosis & nodule formation. Dyspnea & pulmonary complications are common in patients of liver cirrhosis & also increases post-transplantation morbidity & mortality. Dyspnea is contributed by several complications like hepatopulmonary syndrome, portal pulmonary hypertension, etc. Cirrhosis is responsible for metabolic abnormalities & malnutrition, as well as the loss of muscle mass. The loss of muscle mass may affect both peripheral & that of respiratory muscle. Respiratory muscle weakness is an important cause of dyspnea & not been studied in detail. It is important to study this as it has great influence on post-transplantation morbidity & mortality in patients of liver cirrhosis.

Material: A hospital based cross-sectional study, conducted on 50 patients of cirrhosis. Each patient underwent routine investigations, assessment of the RMs, MELD score & mMRC scale. Relationship of RMS with MELD Score & RMS with mMRC Scale was also studied.

Observations: The mean value of MELD score was 20.24 ± 6.54. The mean value for mMRC score was 2.06 ± 0.62. Hypoxemia was found in 39(78%) patients. 41(82%) patients had low Pimax, 39(78%) had low Pemax & 40(80%) patients had low RMs(<80%predicted). MELD score correlated negatively with RMs(r=−0.537, p=0.001) & paO2(r=−0.849, pvalue=0.0001) & correlated positively with mMRCr= 0.678, pvalue=0.0001). mMRC correlated negatively with RMs(r=−0.419, p = 0.0025) and paO2 (r= −0.584, p value < 0.0001).

Conclusions: RMS was decreased in patients of cirrhosis liver & correlates inversely with severity of liver disease, also RMS shows a negative correlation with mMRC scale. Also RMS assessment can be used as routine investigation prior to transplantation to prognosticate post-transplantation morbidity and mortality in patients of liver cirrhosis.

Association of Non-alcoholic Fatty Liver Disease with Bone Mineral Density and Insulin Resistance Ramjasp Prajapati, Naval K Vikram, Ashu Sehith Bhalia, Rita Sood, R Lakshmy, RM Pandey All India Institute of Medical Sciences, New Delhi

Background and Aim: Non-alcoholic fatty liver disease (NAFLD) is the most common cause of chronic liver disease worldwide. It is considered as hepatic component of metabolic syndrome and may be associated with various metabolic abnormalities including bone metabolism. We evaluated the association of NAFLD with bone mineral density (BMD) and insulin resistance.

Methods: This cross-sectional study was done in tertiary care centre, New Delhi between year 2015 and 2017. Subjects between 18- 50 years who were diagnosed of having NAFLD (n=50) on ultrasound and 45 subjects without NAFLD were included in the study. Subjects with other causes of fatty liver such as alcohol abuse, viral hepatitis and drug related fatty liver were excluded from the study. BMD and body composition was assessed by whole body DEXA scan. Biochemical measurement included lipid profile and fasting insulin levels. Homeostatic model assessment for insulin resistance (HOMA-IR) was calculated. Association of NAFLD with BMD and insulin resistance was analysed.

Results: Individuals with NAFLD had higher levels of HOMA-IR as compared to controls (2.18 vs 0.98, p< 0.001). The study did not show any significant difference

Hepatology

L-ornithine L-aspartate in Acute Overt Hepatic Encephalopathy: A Randomized Placebo Controlled Trial Omesh Goyal, Sandeep S Sidhu, BC Sharma, Omesh Goyal, Harsh Kishore, Navpreet Kaur Dayanand Medical College and Hospital, Ludhiana

Introduction: Acute episodes of overt hepatic encephalopathy (OHE) in cirrhotics are associated with significant morbidity and mortality. L-Ornithine L-Aspartate (LOLA) acts through mechanism of substrate activation to detoxify ammonia. High quality data on efficacy of LOLA in cirrhotics with acute episodes of OHE are missing. We...
Clinical Profile of Cholangitic Abscess in Comparison to Liver Abscess: A Study from a Tertiary Center in Kerala

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Introduction: Cholangitic liver abscess is an extremely rare disease. As per our knowledge, this is the first study that gives details about the clinical features of cholangitic abscess in the world.

Methods: We have conducted the present study on 2,08,486 patients who got admitted in hospital from January 2013 till June 2017. The data were collected from the discharge summary of the patient admitted with diagnosis of cholangitic abscess and liver abscess in a predesigned proforma. The data collected was analyzed.

Results: Incidence of cholangitic abscess 6 cases per 1,00,000 cases. Mean age was 54 years with minimum age of 45 years and maximum age of 74 years. Gender distribution showed 8 males and 5 females. Case reporting was majorly from coastal regions. Mean duration of hospital stay was 20 days with minimum (6 days) and maximum (45 days). Mean readmission within 20 days and 2 admissions with 6 months of mortality reported. Major presenting complaints were fever and severe right hypochondrial pain (9 cases), jaundice and weight loss (4 cases). Type 2 diabetes was the main co-morbidity. Mean liver enlargement size was 15 cm. The right quadrant was mainly involved and segment 5 and segment 7 were majorly infected. The mean value of various parameters of LFT and CBC were calculated in both abscess. Significant variation was noted in B.T, B.D, AST, ALP in cholangitic abscess with a minimum of 40% higher vales than liver abscess, similarly CRP, neutrophil-lymphocyte ratio, Platelet lymphocyte ratio were significantly elevated in cholangitic abscess.

Conclusion: We conclude from this study that cholangitic abscess and liver abscess though have similar presentation; they have a totally different etiology and plan of management. A differential diagnosis of cholangitic liver abscess can be considered from CRP, CBC, LFT, B.T, B.D, AST, ALT, ALP, NLR and PLR ratio. Only if they are diagnosed correctly they can be managed appropriately and the recurrence can be prevented.

High Prevalence of Liver Fibrosis and Pre-Symptomatic Cirrhosis Among Indian Diabetics-A Fibroscan Based Study
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Introduction: There is limited data on the prevalence of fibrosis/cirrhosis among Indian patients with type 2 diabetes, which can be easily collected by using a non-invasive method like fibroscan as a screening tool.

Material: Consecutive patients of type 2 diabetes mellitus, presenting to the department of Medicine or Endocrinology of Artemis Hospitals, were subjected to a fibroscan examination using Fibroscan-502 Touch machine. Significant fibrosis was defined as a liver stiffness value of >7.0 kPa and cirrhosis was defined as a value >11.5 kPa. Factors associated with significant fibrosis and cirrhosis were evaluated using univariate and multivariate analysis.

Observations: 134 patients were analysed. The prevalence of significant fibrosis (>F2) and cirrhosis (>F4) was 17.9% (24/134) and 14.2% (19/134) respectively. The factors associated with significant fibrosis on univariate analysis were: High BMI [29.5(22.3-43.9) vs 27.6(19.7-43.4); p=0.04], Low platelets [209.4(72-432) vs 246.2(115-450); p=0.004], High AST [39.8(14.7-107.5) vs 28.5(11.4-301) IU/L; p=0.011], High ALT [48.8(14.4-127.6) vs 30(9.2-85); p=<0.0001], High GGT [50(11.1-223.7) vs 27(0.40-235)IU/L; p=0.007]. On multivariate analysis, factors associated with significant fibrosis on univariate analysis were: High waist circumference [(OR=4.19); (CI=1.01-17.2); p=0.04], High ALT [(OR=1.04);(CI=1.01-1.07);p=0.001], and Low platelets count [(OR=0.99); (CI=0.98-0.99); p=0.04]. On Univariate analysis the factors associated with cirrhosis were: High BMI [30.8(24.17-43.94) vs 27.82(19.71-43.4); p=0.04], High waist circumference [(19/0) vs (82/3); p=0.04], Low platelets[195.6(72-340) vs 240.77(115-450); p=0.01], High AST[48.8(16.9-107.5) vs 29.39(11.4-301); p=0.003] and High ALT [53.74(14.4-127.6) vs 33.14(9.2-117.4); p=0.01]. On multivariate analysis:High ALT[(OR=1.03); (CI=1.01-1.07); p=0.002], Low platelets [(OR=0.99); (CI=0.98-0.99); p=0.04] were significant predictors of hepatic cirrhosis.

Conclusions: 17.9% of type 2 diabetics have advanced liver fibrosis and 14.1% have cirrhosis. High AST, high ALT, high GGT and low platelets are associated with the presence of significant fibrosis and cirrhosis in these patients. Diabetics with higher waist circumference are more likely to have cirrhosis.

HIV

A Study of the Profile of HIV Infected Patients with Immunological Non-Responsiveness to Anti Retro Viral Therapy in a Centre of Excellence for HIV Care

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Introduction: Viral load and CD4 T-cell counts are the most commonly used parameters to monitor the efficiency of antiretroviral treatment. With the introduction of highly active antiretroviral therapy (HAART) the expected results in patients are a decline in the viral load, increase in the CD4 counts, reversal of most of the immunological disturbances and reduction in the morbidity and mortality. Despite a decreasing viral load a proportion of patients fail to achieve optimal immune reconstitution and they are referred to as immunological non-responders (INRs). These patients have a blunted CD4 response. The exact reason for immunological nonresponse is incompletely understood. This study aims to assess the clinical and immunological profiles along with the viral load of HIV patients undergoing ART, and thereby, infer the cause for non-response to first line therapy and hence the determine factors that may predict discordance.

Objective of the Study: To assess the profile based on socio-demographic, clinical, immunological and viraemic parameters of HIV patients showing immunological non-response to first line anti retro viral therapy

Materials and Methods:

Data Collection: The data was collected from the records of HIV patients who have undergone anti retro viral treatment, maintained at the nodal centre at Bowring and Lady Curzon Hospital, Bangalore. These discordant patients included those taking treatment at Bowring hospital and those who were referred from different district ART Centers of Karnataka based on the criteria of immunological failure, i.e., if they demonstrated CD4 decline to pre-ART value (baseline-at start of ART), CD4 drop to less than 50% of peak on-treatment value, failure to achieve CD4 greater than 100 cells/mm³ A2 Year follow up analysis data was collected.

Study Design: Cross-sectional study

Place of study: ART centre of excellence, Bowring And Lady Curzon Hospital, Bangalore.

Inclusion Criteria

1. Subjects living with HIV-1 infection who...
have been on anti-retroviral therapy (ART) and are followed longitudinally for their HIV healthcare in the ART Nodal centre at Bowring and Lady Curzon Hospital, with cluster of differentiation 4 (CD4) count less than 20% of the baseline even after 1 year of therapy despite adherence to ART.

2. Subjects with sufficient follow up records.

Exclusion Criteria

1. Patients who has shown immunological response to first line anti retro viral therapy
2. Patients with causes of immuno suppression other than HIV including Diabetes Mellitus, Chronic steroid abuse and immunosuppressive therapy.
3. Patients with lack of sufficient follow up records

The common trends among the selected profiles were assessed and the cause for immunological non-response of HIV patients on ART waderieved at by comparing the profiles and applying suitable statistical methods.

Observations: Out of the 100 clinical profiles selected, serial viral load and CD-4 estimation was estimated for all. Adherence history of these patients showed more than 95% adherence in NACO recognized government ART centers. In the group 79% were males and 21% were females Mean age at presentation was 40.08±10.46 Mean CD-4 count of the sample was 116.80±70.14. Initial viral load of more than 1 lac copies were observed in 25% of the patients among which 52 % (13) of the patients had a CD-4 count of less than 100 cells/mm3 of the patients had co-infection with Hepatitis B and 1 had HCV seropositivity.30% of patients had opportunistic infections at the time of presentation of which extra-pulmonary TB was the majority (46%)9% of the patients had adverse effects of ART-5 with Anemia, 3 with lipodystrophy and 1 with renal toxicity. 7% of the patients died during the course of treatment all related to opportunistic infections and HIV related complications. An interesting observation we came across was that 7% of the patients turned out to be HIV-2 positive following analysis of the cause for immunological failure and was thus put on a new treatment regimen. Univariate regression analysis was done and those variables which showed a significant association with Immunological failure was analysed using multiple regression analysis. It was found that CD4- counts are the start-2 of ART, at the time of diagnosis of failure e,Older age,male sex, duration of ART and Coinfection-HIV-2 seropositivity had a significant association.

Conclusions: A lower nadir pretreatment CD4+ cell count, suggestive of more extensive depletion of CD4+ cells,male sex, duration of ART,older age and co-infection with Hepatitis B or C, HIV-2 seropositivity are all important determinants of discordance provided treatment adherence is good. This may be extremely valuable while evaluating patients and monitoring them during each visit allowing timely clinical interventions.

Absolute Lymphocyte Count: A Cost Effective Marker for CD4 Count in Patients with HIV

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Introduction: Depletion of CD4+ T lymphocyte count and consequent immunocompromised status is the hallmark of HIV infection. CD4 count remains the key in monitoring HIV progression and isa prime indicator in initiation of prophylaxis for opportunistic infection (OI). However, because of its high cost and use of sophisticated equipment it is not readily available in peripheral setup. This study aimed at finding out the relationship between absolute lymphocyte count (ALC) and CD4 count intertiary care centre and whether ALC could be used as substitute for CD4 count in HIV patients.

Materials & Methods: 355 HIV positive adult patients were randomly selected for the study, out of which 77 newly diagnosed patients were followed after 6 months of HAART initiation. 355 unpaired and 77 paired ALC and CD4 counts were analysed using SPSS ver 10.0.

Observation: The mean age was 35.7 years (±10.3). The mean ALC at presentation was 1800.1 (±736.984) and the mean CD4 count we in 370.73 (±219.636). At follow up after 6 months of HAART (n=77) the mean ALC was 2001.4 (±614.26) and the mean CD4 was 422.47 (±225.339). The ALC and CD4 count at presentation (n=355) and at follow up (n=77) were positively correlated (Pearson Correlation coefficient, r=0.62 and 0.56 respectively, p < 0.0001). ALC ≤1350 significantly correlated with CD4 ≤200 (area under ROC curve 95%, sensitivity 95%, specificity 85% and accuracy 92%) There was also a positive correlation between changes in ALC with change in CD4 count at follow up (r=0.50, p<0.0001).

Conclusions: In resource limited settings, ALC can serve as cheaper substitute for monitoring the CD4 count and in carefully selected patients an ALC ≤1350 could be used as a marker for CD4 count of ≤200 to initiate OI prophylaxis in cases where CD4 counts are not available. This will help in monitoring the progression of disease even in peripheral setup so that timely interventions could be taken.
ICU

Diastolic Dysfunction and Mortality in Early Severe Sepsis and Septic Shock: A Prospective, Observational Echocardiography Study

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Background: Patients with severe sepsis or septic shock often exhibit significant cardiovascular dysfunction. We sought to determine whether severity of diastolic dysfunction assessed by transthoracic echocardiography (TTE) predicts 28-day mortality.

Methods: In this prospective, observational study conducted in intensive care units at our hospital, 78 patients (age 53.2 ± 17.1 years; 51% females; mean APACHE II score 23.3 ± 7.4) with severe sepsis underwent TTE within 6 h of ICU admission, after 18-32 h, and after recovery. Left ventricular (LV) diastolic dysfunction was defined according to modified American Society of Echocardiography guidelines using E (early diastolic mitral inflow velocity), A (atrial diastolic mitral inflow velocity), e (‘early diastolic septal mitral annulus velocity) velocities; E/A, E/e’; E deceleration time. Systolic dysfunction was defined as an ejection fraction <45%.

Results: 27 patients (36.5%) had diastolic dysfunction on initial echocardiogram, while 47 patients (61.8%) had diastolic dysfunction on at least one echocardiogram. Total mortality was 16.5%. The highest mortality (37.5%) was observed among patients with grade I diastolic dysfunction, an effect that persisted after controlling for age and APACHE (Acute Physiology, Age, Chronic Health Evaluation score; BMI, body mass index) II score. At time of initial TTE (Trans thoracic echocardiogram), central venous pressure (CVP) (11 ± 5 mmHg) did not differ among grades I-III, although patients with grade I received less fluid resuscitation.

Conclusions: LV diastolic dysfunction is common in septic patients. Grade I diastolic dysfunction, but not grades II and III, was associated with increased mortality. This finding may reflect inadequate fluid resuscitation in early sepsis despite elevated CVP, suggesting possible role for TTE in sepsis resuscitation.

Study of Microalbuminuria as an Early Marker of Severity of Illness and Probable Outcome in a Critical Care Setup

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Introduction: Critical illnesses are often characterised by SIRS which when severe leads to multiple organ failure and finally death. The intense inflammatory responses associated with critical illness are thought to be mediated by cytokines. The release of cytokines and other mediators can lead to microvascular injury, which may be associated with development of systemic inflammatory response syndrome (SIRS) and multiple organ dysfunction. Therefore microalbuminuria is thought to reflect the glomerular component of systemic capillary leak that is fundamental to the pathogenesis of multiple organ failure.

The aim of this study was to establish microalbuminuria as an early and reliable prognostic marker in critically ill patients and to study its correlation with APACHE II score.

Materials: A total of 130 patients admitted to M S Ramaiah Hospitals who fulfilled the inclusion criteria were considered in the study. Microalbuminuria in the form of proteinuria was defined as an ejection fraction<45%.

Results: Of all the patients admitted to ICU, 88.8% had microalbuminuria at admission, with a median ACR value of 67.5 (IQR 43 – 143.5) mg/g. At 24 hours of admission, microalbuminuria persisted in 77.7% of patients. The median ACR fell to 56 (IQR 33 - 148.75) mg/g at 24 hours. Mortality was seen in 47 patients (36.2%). The median ACR2 was significantly higher amongst the non-survivors [148.0(IQR 63 - 193) mg/g] when compared to the survivors [45 (IQR 24 - 80) mg/g] (P <0.001). Both ACR1 (P <0.01) and ACR2 (P <0.01) had positive correlation with APACHE II scores. The area under the ROC curve for prediction of mortality was highest for APACHE II (79%), then ACR2 (77%) followed by ACR1 (73%).

Conclusion: In this study, it was noted that microalbuminuria was very commonly seen among ICU patients. Both ACR1 and ACR2 had significant association with mortality. Microalbuminuria at 24 hours gave a better prediction of mortality compared to that at admission. Patients with a higher degree of microalbuminuria had a greater mortality. As such microalbuminuria at 24 hours had a very good negative predictive value implying absence of which had a better outcome. There was significant positive correlation with APACHE II score.

Infections

Immunological Profile of Enteric Fever
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Introduction: Enteric fever remains a major public health problem in the developing world. Accurate diagnosis at an early stage is important for diagnosis to prevent morbidity and mortality in this fever. Immunological profile becomes important in view of indeterminate prior antibiotics given to majority of patients.

Material: In a prospective study we compared a rapid point of care test viz TyphiDot with traditional methods i.e. blood culture, clot culture and Widal test. Patients presenting with fever 25 days of age 15 years or more coming to department of Medicine were enrolled. Total 70 pts were evaluated out of which 40 proven cases were selected. Both other laboratory confirmed illnesses were taken as control. Two separate 5-10 ml of blood sample were collected from each patient & sent to the department of Microbiology. First sample was submitted for blood culture & sensitivity. The second sample was centrifuged to separate serum. The serum was used for Widal test & TyphiDot rapid card test and clot for clot culture.

Observations: The majority of the 40 pts (mean 33.18±13.19) were female (62.50%) & their symptoms were of <10 to >30 days with 80% had prior treatment history. Clinical examination revealed fever in 100%, loss of appetite in 62.5%, abdominal pain in 35%, headache in 27.5%, joint pain in 2.5% pts. Main clinical signs were hepatomegaly (5%), relative bradycardia (50%), coated tongue (47.5%), & splenomegaly (40%). Blood & clot culture in brain heart infusion broth were positive for S. Typhi in 25% pts each. TyphiDot performed as all pts was positive in 37 & Widal test was positive in 34 pts. It was found that TyphiDot was more sensitive (92.5% vs 85%) and specific (93.33% vs 40%) than Widal test (p <0.01).

Conclusion: TyphiDot is emerging as a single sensitive & specific test for enteric fever especially for blood culture negative pts, who receive antibiotics before diagnosis.

Prevalence of Carbapenemase-producing Klebsiella Pneumoniae Blood Stream Infections in a Tertiary Care Center
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Introduction: Multidrug resistant (MDR) Gram negative infections have resulted in high rates of morbidity and mortality in patients with diverse clinical conditions. Klebsiella pneumoniae carbapenemase (KPC)-producing bacteria is one of the emerging MDR pathogens causing bacteremia with limited therapeutic options such as colistin and tigecycline.

Methods: An investigational laboratory based study was conducted (over 1 year) to know the prevalence of Klebsiella pneumoniae carbapenemase (KPC)-producing bacteria from blood culture isolates. Blood culture samples were processed and Klebsiella pneumoniae was identified by colony morphology, Gram staining and biochemical
patients admitted at private tertiary care hospital. Data was collected from medical record department. Clinical profile, blood investigations, radiological investigations, treatment and outcome of these patients were noted.

Observation: There were 214 H1N1 Influenza A positive patients. Their age range was 18-89 Years, and median age was 47 years. Out of 214 patients 111 (51.87%) were females and 103 (48.13%) were males. Maximum number of patients admitted in one month were 78 (36.45%) in March 2015 and 72 (33.64%) in February 2015. The most common chief complaint was fever in 201(93.92%) patients. There were 70 (32.39%) patients in category A, 9 (4.23%) in category B1, 54 (25.35%) in category B2 and 81 (38.03%) in category C. Anemia was present in 33 (41.77%) patients. Out of 123 patients CPK was raised in 56 (25.97%) cases. Out of 204 patients LDH was raised in 50 (41.32%) patients. Secondary bacterial infection was seen in 26 patients. Streptococcus pneumoniae was the most common organism in 11 (42.31%) cases. On X-ray chest right lower zone consolidation was common finding seen in 35 patients. Most common findings in HRCT chest were multiple patchy areas of consolidation and ground glass opacities; seen in 18 (69.23%) patients. ICU admission was required in 56 (26.17%) patients and 158 (73.83%) were treated with infection control measures. Out of 56 patients who required transfer to intensive care unit, 33 patients required ventilatory support (invasive ventilation in 16 (48.5%), non-invasive ventilation in 16 (48.5%) and Extra corporeal membrane oxygenation (ECMO) in3 (3%) patients.). Arterial blood gas analysis done at the time of ICU transfer showed type 1 respiratory failure in 23 (54.76%) patients. Out of 214 patients 155(72.4%) were admitted in hospital within 5 days, 159 (74.3%) patients received treatment within 5 days of symptoms. Out of 204 patients, 162(78.65) were treated for 5 days, 42 (20.4%) were treated for 7-10 days and 21(1%) were treated for 14 days with capsule Oseltamivir. Out of 214 patients, 6 patients died of which 4 were males and 2 were females. Mean age was 45 years.

Out of 6 patients 4 were having underlying comorbid conditions like diabetes, hypertension, chronic kidney disease, rheumatoid arthritis. Out of 6 patients 4(66.64%) received treatment within 5 days but after 48 hours. All 6 patients required invasive ventilation and ARDS was the most common cause of death in 4 patients. No mortality was noted in 61 patients (28.5%) who received treatment within 48 hours.

Conclusion: H1N1 Influenza A caused severe illness requiring hospitalization. Young individuals were affected more. Fever and cough were the most common presenting symptoms and individuals with underlying comorbidity were at high risk. Development of ARDS and requirement of ventilation were poor prognostic factors. What factors promote rapid progression especially in a group without predisposing conditions should form the focus of future studies. Future directions and interventions should be focused towards immunization of high risk groups annually to reduce morbidity and mortality.

Serum Angiopoietin-1 and -2 and Ratio are Markers of Disease Severity in Vivax and Falciparum Malaria

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Introduction: Limited tools exist which can predict occurrence of severe disease in malaria. The study was designed to assess serum biomarkers including Angiopoietin-1 (Ang-1) and Angiopoietin-2 (Ang-2), VEGF(vascular endothelial growth factor) and ADMA (Asymmetric Dimethylarginine) in patients with uncomplicated (UM) and severe malaria (SM).

Materials: A prospective observational study, carried out at a tertiary care centre in North India including 49 patients (> 12 years), diagnosed malaria with either/both rapid diagnostic test positive or smear positive and 22 healthy controls. Serum concentrations of Ang-1, Ang-2 and VEGF were measured by sandwich ELISA and ADMA was measured by competitive ELISA.

Observations: 31 (63.2%) were male and 18 (36.7%) were female with mean age of 25 years (14 to 81 years). Twelve patients had falciparum malaria and 47 patients had vivax malaria.25 patients had severe malaria and 24 patients had uncomplicated malaria. Ang-1 levels were significantly lower in patients with severe malaria (7775 pg/ml) compared to uncomplicated malaria (17629 pg/ml) and healthy controls (4347 pg/ml) (p <0.001). Ang-2 levels were significantly higher in severe malaria (11100 pg/ml) compared to uncomplicated malaria (7315 pg/ml) and healthy controls (3679 pg/ml) (p <0.001). The ratio Ang-2/Ang-1 was significantly higher in patients with SM compared to those with UM. ADMA levels were significantly increased and VEGF levels significantly decreased in SM compared to UM. The ratio of Ang-2/Ang-1 was best in discriminating between severe malaria and uncomplicated malaria (cut-off >0.45; sensitivity: 84%, specificity: 70%).

Conclusions: The results of the present study demonstrate the dysregulation of angiopoietins, ADMA and VEGF in patients with malaria. Ang-1, Ang-2 and ratio can discriminate between patients with uncomplicated disease from ones with severe disease with good sensitivity and specificity.
A Comparative Study of Outcome of Fever with Thrombocytopenia in Dengue Positive and Negative Individuals

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Introduction, Aims & Objectives: All the cases of fever with thrombocytopenia presented at Gandhi hospital from June to September 2016 were followed up and results were compared between dengue positive and dengue negative individuals. The parameters observed were male to female incidence, mean platelet count, number of RDPs transfused, duration of hospital stay, severity of bleed and final outcome among dengue positives and negatives.

Methods and Results: It was observed that, of the 156 cases, 42 (26.9%) were dengue positive and 114(73.1%) were dengue negative. Among dengue positives, 59.8% were males and 40.2% were females. Among negatives, 51.6% were males and 43.9% were females. The mean platelet count was observed to be 64,500 and 49,375 in positive males and females respectively and 41,807 and 40,783 among negatives. The RDPs required were on an average 3.8 and 4.5 in positives and 4.03 and 4.36 in negative males and females respectively. Duration of hospital stay was around 7+/−3 days in dengue positives and 4+/−2 days in negatives. 40.4% dengue positives and 36.8% negatives had bleeding manifestations. The bleeds were 47% superficial and 53% deep in positives and 40.4% superficial and 59.6% deep in negatives. The death rate was 4.7% in dengue positives and 0.08% in negatives.

Conclusions: It can be concluded that though mean platelet count was higher in dengue positives, complications, mean hospital stay and outcome is graver when compared to seronegatives. Requirement of RDPs as treatment was more in positives when compared to negatives.

Microbiological Profile of Pathogens in Spontaneous Bacterial Peritonitis Secondary to Cirrhosis of Liver

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Introduction: Spontaneous bacterial peritonitis (SBP) is defined as an acute bacterial infection of the ascitic fluid without an obvious source of infection. The prevalence of SBP in patients of cirrhosis and ascites ranges between 10-30%. With the increasing usage of antibiotics and newer therapeutic techniques, there is occurring a shift in the causative flora of SBP from gram negative bacteria (as seen earlier) to more of gram positive and drug resistant bacilli. Primary objective of this study was to study the microbiological profile of pathogens in SBP patients.

Material and Methods: This was a descriptive study with cross-sectional design conducted retrospectively from June 2014 to August 2017 after obtaining ethical approval from Institute’s Ethical Committee and participants’ consent. Study participants were adults more than 18 years of age with Cirrhosis and SBP. SBP was defined as ascitic fluid neutrophil count>250 cells/cu.mm and culture growing an organism.

Observations: Laboratory records of 291 participants were studied and analysed. Gram negative organisms were predominant (74.9% vs 25.1%). Ascitic fluid culture was done by routine microbiological methods. It grew Escherechilia coli most commonly (26.8%), followed by Acinetobacter baumanni (17.9%), Klebsiella (11%), Pseudomonas (10%), Enterobacter sps (6.9%) and others. Amongst gram positive organisms, Enterococcus faecalis was the commonest (11.3%) followed by Staphylococcus aureus (41.1%). Staphylococcus sps (41.1%) and MRSA (1%). Candida sps. was the commonest fungus (4.1%) isolated. On analysing the antimicrobial sensitivity, 82% of E. coli were resistant to Ceftriaxone alone. 45% isolates of E. coli resistant to Cefpodox and Ceftriaxone were sensitive to Amikacin. More than half of the Acinetobacter isolates were resistant to Ceftriaxone. 45% isolates of E. coli resistant to Cefpodox and Ceftriaxone were sensitive to Amikacin. More than half of the Acinetobacter isolates were sensitive to Amikacin. More than half of the Acinetobacter isolates were sensitive to Amikacin.

Conclusion: It can be concluded that the microbiological profile of pathogens in SBP patients is changing with increasing usage of antibiotics and newer therapeutic techniques. More than half of the Acinetobacter isolates were sensitive to Amikacin. More than half of the Acinetobacter isolates were sensitive to Amikacin. More than half of the Acinetobacter isolates were sensitive to Amikacin.

Cryptococcal Meningitis in Non HIV, Immunosuppressed Patients

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Introduction: Cryptococcal meningitis is a opportunistic systemic mycosis, caused by Cryptococcus neoformans. It is responsible for 62500 deaths annually worldwide. It assumed significance due to rising incidence associated with HIV. But as the prevalence of HIV is decreasing due to early detection and effective anti retroviral therapy, focus is now shifting to cryptococcosisin NHNT (Non HIV and Non Transplant) patients. Western studies have shown that cryptococcal meningitis in NHNT has worse prognosis with mortality of 27% as compared to 20% in HIV and susceptibility to permanent neurological sequelae viz cranial nerve palsies, obstructive hydrocephalus and focal motor deficits. With deficiency of large studies especially in India and lack of treatment guidelines, cryptococcosis in NHNT patients remains cryptic as ever.

Material: Case series of 4 patients during time period of 2014-2017 admitted in a tertiary care hospital. Diagnosis of Cryptococcal meningitis was confirmed by India ink and cryptococcal antigen positivity in CSF sample.

Observation: We are reporting 4 cases of NHNT patients diagnosed to have cryptococcal meningitis. Patients were in age group of 24−61 years and came with c/o fever, headache, with one patient presenting with altered sensorium. All patients were initially treated with Amphotericin B and CSF study after 2 weeks showed Cryptococcal positivity and were subsequently treated with fluconazole. TH patients had CD4 lymphocytopenia secondary to immunosuppressive therapy while one patient had Idiopathic CD4 Lymphocytopenia. Three patients had uncomplicated recovery while one patient needed VP shunt due to hydrocephalus.

Conclusion: Cryptococcal Meningitis in NHNT patients has not received due importance, in spite of the incidence being as high as 37%. In view of significant morbidity and higher mortality in NHNT patients, awareness, high degree of suspicion as well as timely diagnosis and prompt treatment with follow up is required for good outcome.

To Study New Focus of Visceral Leishmaniasis in Recent Times Admitted in Sir Sunderlal Hospital, BHU

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Introduction & Background: Leishmaniasis manifests in three forms: visceral leishmaniasis (VL), cutaneous leishmaniasis (CL) and mucocutaneous leishmaniasis (MCL). VL is the most severe form and is commonly reported form while exact distribution of other two forms is not clear.

Epidemiology: The annual incidence of Kala Azar (KA) is between 201, 500−378, 500 of which more than 90% occurs in six countries: Bangladesh, Brazil, Ethiopia, India, Nepal, Sudan. India alone accounts for 50% of global burden of leishmaniasis. Kala Azar is an endemic disease and is endemic disease and is commonly reported form while exact distribution of other two forms is not clear.

Material and Methods: Leishmaniasis is endemic in certain districts in Bihar and UP with majority of them being treated in Sir Sunderlal Hospital, BHU. The commonly reported districts in Uttar Pradesh include 6 districts: Ballia, Deoria, Gazipur, Gorakhpur, Kushinagar, Gonda and 10 major districts in Bihar: Muzaffarpur, Madhepura, Purnia, Sahara, Samastipur, Saran, Sitamarhi, Vaishali, Arabia and East Champaran.

We mapped the districts from where cases of leishmaniasis are admitted in our
centre in last 2 years between 2015-2017 and compared with the old scenario reported from our centre and found sporadic cases in new districts from where cases haven’t been reported earlier suggesting shifting of infection to new regions in addition to older ones.

**Results and Conclusion:** Based on our study of disease distribution we found development of sporadic cases from non-endemic regions surrounding endemic regions in both UP and Bihar including 2 sporadic cases from Madhya Pradesh suggesting shifting of spread of infection and need to further potentiate programmes in these regions to fulfil the goal of disease elimination.

**Utility of Gene-Xpert technique in the Diagnosis of Neurotuberculosis**

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**Background:** While pulmonary tuberculosis is the most common presentation, extra-pulmonary tuberculosis (EPTB) is also an important clinical problem. Extrapulmonary TB represented 15% of the 6.1 million incident cases that were notified, ranging from 8% in the WHO Western Pacific Region to 23% in the Eastern Mediterranean Region. The term EPTB has been used to describe isolated occurrence of tuberculosis at body sites other than the lung. Tuberculosis may involve lymph node, pleura, GIT, GUT, skin, bone and joint, CNS, heart and pericardium. The percentage of patients with EPTB in tertiary care centers in India was between 30% and 53%, while the percentage estimated by the national control program in India for HIV-negative adults is between 15% and 20%. Among extra-pulmonary tuberculosis, lymph node tuberculosis is the most common type constitute about 35% cases followed by pleural effusion (20%), bone and joint (10%), genitourinary TB (9%), abdominal tuberculosis (3%), Neuro-tuberculosis (5%) and other (10%). Neurological TB may be classified into three clinico-pathological categories: tuberculosis meningitis (TBM), tuberculoma and arachnoiditis. TBM accounts for 70-80% of cases of NTB which is invariably secondary to TB elsewhere in the body. The diagnosis of EPTB is challenging because of paucibacillary in nature, lack of specific sign and symptoms and often negative acid fast bacilli smear of biological specimens. Indirect methods like tuberculin skin test and interferon gamma release assay are adjunctive diagnostic tools but it may be negative in presence of disease. In developing countries like India where tuberculosis is highly endemic, tuberculin skin test and gamma interferon result alone is not sufficient evidence to diagnose EPTB. Other biochemical and microbiological tests for clinical samples are suggestive of tuberculosis but not definitive. Definitive diagnosis of tuberculosis involves demonstration of M. tuberculosis by microbiological, histological and serological methods. GeneXpert or CBNAAT (cartridge based nucleic acid amplification test) which is a real time PCR test in WHO policy issued in 2010 recommends its use as the initial diagnostic test in individuals suspected of having MDR-TB or HIV-associated TB (strong recommendations). A policy update in 2013 expanded its recommended uses, including the testing of TB children, on selected specimens for the diagnosis of EPTB, and for all individuals suspected of having pulmonary TB (conditional recommendations). In this study we will be prospectively determining the utility of the test in detection of MTB in CSF obtained from the patients who has presumption of neuro-tuberculosis.

**Aim:** To determine utility of Gene Xpert (CBNAAT) test in detection of MTB in CSF obtained from the patients who are clinically diagnosed case of neuro- tuberculosis.

**Material and Methods:** This is a prospective study being conducted in department of Internal medicine R.N.T. Medical College Udaipur, Rajasthan. Patients above the age of 14 years and having symptoms pertaining to CNS involvement during the period2017 to Jan 2018 will be the study population. Ethical permission has been taken from the board of this Medical College. Their detailed clinical history, demographic profile and socioeconomic status will be recorded. Address and Contact number of patients will also be recorded for further communication. Previous history of tuberculosis, history of contact with pulmonary tuberculosis, past history of medical illness and h/o co-morbid illnesses will also be taken. General physical examination as well as complete systemic examination will be done carefully with more emphasis on involved system. Fresh chest x-ray as well as neuroimaging (CT / MRI brain) will be ordered to patients whose condition permitted. Two Sputum samples from study population, who had cough for any duration, will be sent for AFB examination by light microscopy under RNTCP. Blood will be drawn using universal precautions and will be sent for routine investigations (BSF, LFT, RFT etc) as well as for HIV testing. 3ml CSF fluid will be drawn by lumber puncture using standard procedure protocol and 1 ml will be sent for CBNAAT test and 2 ml for routine as well as bacteriological examination. All the information will be recorded in predesigned proforma formed in Microsoft excel for final analysis. Bacterial meningitis, viral meningitis and fungal meningitis will be ruled out by clinico-radiological, biochemical and bacteriological examinations. All study subjects were put on ATT under RNTCP according to their past history ATT and their symptomatic improvement were viewed during hospital stay and follow up was taken telephonically and by OPD visits after discharge.

**Results:** Till Aug. 2017 we have studied 58 patients clinically diagnosed as neuro-tuberculosis on the basis of clinical, radiological, biochemical and bacteriological analysis of CSF and by clinical response to ATT as well as exclusion of other possible diagnosis. Out of 58 patients, there were 29 (50%) male and 29 (50%) female and the male to female ratio was 1:1.7 (12%) patients were HIV positive and 20 (34.5%) patients were having fasting blood sugar above 126 mg/ dl. chest x-ray of 21 (36.2%) patients were consistent with tuberculosis. Sputum AFB was done in 34 (58.62%) patients. Sputum of 16 (27.59%) patients were negative for AFB whereas 18 (31%) were positive for AFB. We were able to perform neuroimaging in 29 (50%) patients and 22 (37.93%) patients showed various lesions in brain. 25 (43.10 %) patients had CSF ADA above 10 IU/L, 29 (50%) had CSF ADA between 6-10 IU/L and only 4 (6.89%) had CSF ADA below 6 IU/L. Out of 58 studied patients, CBNAAT was able to detect MTB in CSF from 3 (5.17%) patients and all were ‘R’ sensitive whereas 55 (94.82%) patient’s CSF samples were negative for MTB by this test.

**Conclusion:** Although CBNAAT is sensitive and specific test but the ability of this test in detection of MTB in CSF is variable in the published literature. In this study, the test detects MTB in 5.17% (3/58) CSF samples which is quite low in comparison to other published study. This is because the Xpert test system depends upon capture and lysis of whole bacilli and therefore, as for other microbiological tests for TBM, high volumes (7 ml) of CSF is the presence of some inhibitory factors for DNA polymerization. To increase value of this test which has gained popularities in detection of MTB in sputum sample, a good amount as well as centrifuged CSF sample has to be put on CBNAAT.

**An Estimation of IL-10 Levels in Comparision to Clinical and Laboratory Parameters in Dengue Fever**

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**Introduction:** Dengue virus infection is a major, growing public health problem with an estimated2.5 billion people at risk of infection. Dengue viruses can cause a wide variety of clinical illnesses ranging from mildly symptomatic dengue fever (DF) to more dangerous clinical conditions with capillary leakage syndrome such as dengue shock syndrome(DSS) and dengue hemorrhagic fever (DHF).

Clinico pathological manifestations of dengue depend on multiple factors. They include previous infection with other
serotypes, immune-mediated process like antibody dependent enhancement, shift of TH1 to TH2, alterations in the multiple cytokine levels.

From the previous observations it was proven that even though IL-10 was labelled as anti inflammatory cytokine, increase in its levels will lead to severe dengue. As we are interested in this paradoxical behavior of the IL-10 has been studied in relation to the severity of clinical and laboratory parameters in dengue patients.

**Aim:** To correlate the production of IL-10 with the severity of clinical and laboratory findings in patients of dengue fever.

**Objectives:**
1. To assess the severity of dengue by serial clinical examinations.
2. Monitoring the lab parameters like CBP, ESR, Platelet Counts, Hematocrit, SGOT, SGPT, Alp, Bilirubin Levels, Serum Creatinine.
3. Measurement of IL-10 levels in dengue fever patients.

**Materials and Methods:** 100 patients of dengue fever are studied after excluding the other causes of thrombocytopenia and they were divided into dengue (73) and severe dengue (27) group based on the severity of clinical symptoms.

The symptoms were analyzed systematically as presence of bleeding manifestations, site of bleed, symptoms and signs of capillary leak. Laboratory investigations like hematocrit, CVP, renal function tests, liver enzymes, bilirubin levels, bleeding and clotting time, Interleukin 10 levels has been measured.

The results were systematically analyzed for correlation among symptoms, lab parameters and IL-10 levels.

**Results and Analysis:** Symptoms of gum bleed, headache, retro orbital pain, oral mucosal bleed, abdominal pain, asthenia, muscle aches were more in severe dengue group when compared to dengue fever group.

Other comorbidities like CVA, CAD, BA, COPD were compared in both groups no significant correlation was found.

**Lab parameters like platelet count, hematocrit, ESR, SGOT, SGPT, Alp, TSB, serum creatinine, bleeding and clotting time were compared between two groups.** Impaired laboratory parameters were found in severe dengue group and these values are in correlation with IL-10 levels.

1. Mean duration of days of illness is (3.03 ± 1.3) in dengue group and (8.22 ± 2.8) in severe dengue group and p-value being 0.001*.
2. Mean Age (in years) in dengue group is (27.52 ± 10.4) and 43.96 ± 20.4 in severe dengue group and p-value being 0.000*.
3. ESR in mm in dengue group is (30.07 ± 6.39) and (17.37 ± 3.7) in severe dengue group and p-value being 0.005*.
4. Bleeding time in seconds in dengue group (173.68 ± 17.5) and (455.93 ± 84.3) in severe dengue group and p-value being 0.000*.
5. Clotting time in seconds in dengue group is (299.30 ± 63.7) and (622.67 ± 81.9) in severe dengue group and p-value being 0.000*.
6. Platelet count in dengue group (82243.29 + 37379.3) and (19518.52 + 10580.7) in severe dengue group and p-value being 0.0036*.
7. Hematocrit in dengue group (43.89 ± 3.6) and (50.04 ± 5.3) in severe dengue group and p-value being 0.000*.
8. SGOT in dengue group (100.37 ± 72.6) and (435.41 + 122.1) in severe dengue group and p-value being 0.000*.
9. SGPT in dengue group (73.45 ± 50.5) and (246.30 ± 77.1) in severe dengue group and p-value being 0.000*.
10. TSB in dengue group (2.02 ± 1.3) and (6.03 ± 1.9) in severe dengue group and p-value being 0.000*.
11. ALP in dengue group (124.11 + 38.7) and (139.88 + 35.1) in severe dengue group and p-value being 0.173.
12. Serum creatinine in dengue group (0.67 + 0.3) and (2.57 ± 0.8) in severe dengue group and p-value being 0.000*.
13. IL-10 values in dengue group (50.84 ± 7.07) and (81.28 ± 10.36) in severe dengue group and p-value being 0.000*.

**A Comparative Study - Treatment Using Doxycycline vs Doxycycline and Azithromycin in Scrub Typhus Patients**

**Smruti Sangam, P.V. Sivaram, S. Suneetha Prasanthi, Siddantapu Venkatesh**

**Tirumala Multi Speciality Hospitals Indian Pvt. Ltd.**

**Introduction:** Scrub typhus is an acute, febrile, infectious illness. It is caused by Orientia (formerly Rickettsia) tsutsugamushi, an obligate intracellular gram-negative bacterium. The pathogen, is transmitted to humans through the bite of an infected chigger, the larval stage of Leptotrombidium mites.

**Material:** The patients who attend our OPD and get admitted with acute febrile illness and later diagnosed to have infection with scrub typhus and also show thrombocytopenia.

**Methods:** A randomised control trial is conducted, treating 50% patients with Doxycycline and another 50% patients with Azithromycin along with doxycycline (dose according to weight). 2 parameters are considered in treatment outcome, i.e. time taken for temperature to turn normal and time taken for the platelet count to become normal. Analysis is made on, which type of treatment will show faster recovery in terms of the above parameters and whether, it is significant or not.

**Observation:** The current treatment for scrub typhus is Doxycycline. Newer macrolides is for children and pregnant women. In patients treated with single drug, fever still persists, thrombocytopenia not starting to improve significantly by day 3 of admission. In patients treated with 2 drugs the clinical condition seems improve faster. The reason may be additive effect of two drugs though resistance to drug is not well documented in India.

**Conclusion:** As scrub typhus infection involves multiple systems and the clinical condition deteriorate rapidly, early treatment with doxycycline and azithromycin is more beneficial than only one. Further studies are required to establish
the reasons for difference in response to different drugs and redefine treatment strategies as the incidence and prevalence of scrub typhus is increasing.

Profile of Acute Febrile Illness with Thrombocytopenia in S.G.L. Charitable Hospital, Jalandhar, Punjab
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S.G.L. Charitable Hospital, Jalandhar, Punjab

Background: Fever with thrombocytopenia is a common health problem for the health care providers and general population, mostly in the post monsoon period. A detailed history and clinical examination is required in every case in order to narrow down the differential diagnosis of fever. Thorough clinical and laboratory evaluation would be helpful to evaluate different causes of fever with thrombocytopenia and they may replace the need of costly serological investigations in diagnosis. Thus a well organized systemic approach needs to be carried out with laboratory evaluation would be helpful in diagnose the case early. This will reduce the cost, morbidity, and mortality associated with it.

Aims & Objectives: The proposed study was conducted with aim to evaluate Clinical profile of Fever with Thrombocytopenia, to elucidate the possible infective etiology, to correlate clinical features, laboratory studies and infective etiology and to study the association of sudden fall in platelet in first two days with complications.

Material & Methods: A total of 200 patients of either sex hailing from rural or urban area admitted through OPD or Emergency with fever of more than 38.5°C and thrombocytopenia with platelet count less than 150000/µl admitted in S.G.L. Charitable Hospital, Garha Road, Jalandhar during the period of 1 year, from 12th September 2015 to 11th September 2016. Detailed investigation of the cases and, a careful history and detailed examination of all selected cases was done and recorded in the Study Performa evolved and pretested for the study. Routine investigations including Complete blood count, Peripheral Blood smear, Platelet count, Urine Routine examination, Liver Function Test, Blood Urea, Serum Creatinine, PT/INR, Chest X-ray, Ultrasound abdomen, ECG, Dengue IgM and IgG antibodies and NS1 antigen, Malarial Antibodies P.falciparam, P.vivax, HBsAg, Leptospiral Antibodies, Widal test, Typhidot IgM and IgG antibodies, Chikungunya antibodies, Blood Culture, Urine culture, HCV antibodies and HIV Antibodies were done. In whom a final definite diagnosis was reached, were treated for the disease and platelet count were repeated at the time of discharge.

Results: In our study the commonest infectious etiology of febrile thrombocytopenia was Dengue 58.5%, followed by Septicemia 15%, other unidentified constitute 10.5%, enteric fever 5.5%, malaria 5%, Leptospirosis 2.5% and Chikungunya 3.5%. There was male preponderance as the frequency of males (65.5%) was more compared with females (34.5%). The maximum number of patients was in the age group of 20-39 years of about 40. The minimum age of the patient was 14 and maximum was 85 years with a mean age of 40.825 years. The maximum patients were seen mainly during April to October and December constituting 60.5% of total cases, and 54.5% were from urban area and 45.5% from rural. The mean duration of fever at the time of presentation was 4.67 days with maximum presenting within 4-6 days. The presenting symptoms were Fever (100%) followed by vomiting in 156 (78%), bodyache in 132 (66%), loose stools in 124 (62%), joint pain in 104 (52%), abdominal pain in 99 (44.5%), cough/dyspea in 88 (44%), petechial rash in 8 (4%). The mean platelet count on Day 1 was 57,020/µm with maximum number of cases that is 103(51.5%) had count between 20,000 to 50,000/µm at the time of admission. All the patients had thrombocytopenia irrespective of the etiology. 41 had leucocytosis 24 patients had leucocytosis.Ascites was seen in 28% cases and pleural effusion in 35% cases and Gall bladder edema in 44.5%. The levels of blood urea and serum creatinine were elevated in 13% 36 (18%) cases were observed to have bleeding manifestations maximum had count between 20,000-50,000/µl. Petechiae/ purpura, was the most common presentation with 8 (29.62%) followed by malena (25.92%), gum bleed (22.22%), subconjunctival haemorrhage (7.4%), epistaxis(18.51%), haematemesis (7.4%), bleeding per vagina (14.81%), hemoptysis(11.11%) and hematuria (3.7%). In our study out of 131 Males, complications in the form of bleeding, hypotension and ARDS was present in 45 patients (25 male & 16 females). In this present study 32 of patients showed falling trends in platelet during first two days while the rest showed an increasing trend. And there was no association found between the sudden fall in platelet count in first two days with complications. Our study shows mortality of 1.5%. Out of 200 cases 3(1.5%) cases died, of them 2 were of dengue, 1 was of sepsis. Deaths were due to multiorgan failure in all the 3 cases. Good outcome was seen in 92% patients.

Conclusions: Fever with thrombocytopenia is a major cause of concern for health providers mostly during post monsoon season. In our study Dengue (58.5%) was found to be the commonest cause of thrombocytopenia, followed by Septicemia (15%). There was male preponderance as the involvement of male sex was higher with males. Maximum prevalence of fever with thrombocytopenia was in the age group of 20-39 years. But there was no correlation between Age and gender with thrombocytopenia. There was a significant correlation between the platelet count and the bleeding manifestations. And no association was found between bleeding manifestations and the gender and Age. Bleeding manifestations were seen in 36 (18%). Among the cases which had a bleeding manifestations, petechiae/ purpura, was the most common presentation. The maximum number of patients had platelet count between 20000 to 50000/µL and bleeding manifestations were found to be significantly related to the platelet count but no significant correlation was found between Gender and complications. Also no association was found between sudden fall in platelet count within 1st 2 days with complications.

Limitations of the study: Since the study had been carried out at the tertiary centre of healthcare which might not reflect the whole dengue infected group of the given locality or population, true incidence and prevalence of the disease could not be calculated.

Only the presumptive diagnosis was made for the viral infections. Serological diagnosis of viral infections is expensive, limited and cumbersome and was not done in every case. Extensive analysis of particular febrile illness had not been attempted.

Prognostic Significance of Serum Ferritin in Dengue
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Introduction: Dengue is a mosquito borne – fast emerging pandemic prone viral disease in many parts of the world. Presently, methods are available to diagnose dengue viral infections, but there is no absolute means to monitor and predict the severity of disease. Since there is no available antiviral treatment for dengue infection at the moment, it is necessary to develop prognostic biomarker that predict development of dengue severity during the defervescence to provide more attention to those with non-severe dengue that are predicted to progress into severe dengue and effective disease management.

Aims and Objectives:
1. To correlate serum ferritin levels to dengue severity.
2. To establish serum ferritin as a potential biomarker in predicting prognosis of dengue.

Material and Methods: Patients who fulfil the inclusion and exclusion criteria coming to the department of general at general medicine at KIMS hospital, Bangalore

Inclusion criteria: any patient above 18yrs of age with history of fever with dengue profile positive (NSI antigen and IgM antibody positive).

Exclusion criteria: all cases of anemia, chronic inflammatory disease, recent
blood transfusion.

- Clinical history and examination of all dengue positive cases.
- Classify the dengue patients on severity as per WHO 2009 guidelines and estimate serum ferritin levels on the D1.
- Follow up the patient on D4 and reclassify them based on severity
- Second sample to be drawn to estimate serum ferritin levels.
- Comparison of ferritin levels on D1 and D4 of admission with that of severity of dengue.

**Results:** In the present study, out of 100 study subjects, 70 (70.0%) were males and 30 (30.0%) were females. Majority i.e., 43 (43.0%) study subjects were in the age group of 18-25 years. The mean age was 32.49 ± 13.64 years with a range from 18 to 80 years.

Majority of the study subjects presented with symptoms of fever (100.0%) and bleeding manifestations were seen among 24.0% of the study subjects. The severity of dengue varied with the serum ferritin levels.

On day 1, serum ferritin levels increased significantly increasing severity of Dengue (P=0.05). On day 4, serum ferritin levels increased significantly with the increasing severity of Dengue, and with increase in haematocrit and decreasing platelet counts (P=0.05).

**Conclusion:** Thus serum ferritin predicts the severity of the disease and hence in all patients serum ferritin can be considered as the prognostic marker and to plan for aggressive management and treatment.

**Prognosis:**

- Mortality was 10.78%, 15.68% had neurological deficit at discharge, 73.52% were fully recovered, out of which 6.8% had post malaria neurological sequela.

**Discussion:** The neurological complications of falciparum malaria are common and encompass a wide spectrum of clinical presentation. These complications can manifest during acute illness, or can present during convalescence. Neurological involvement is more frequent with falciparum malaria because of its unique characteristics leading to micro-vascular involvement.

**Study of Etiology, Clinical Profile and Outcome of Acute Undifferentiated Febrile Illness**

**Materials & Methods:** Present study was conducted on 102 patients who are admitted to the Tertiary hospital in Western Maharashtra (246 patients were evaluable).

**Aims & Objectives:** To study the spectrum of neurological manifestations in Falciparum malaria patients.

**Methods:** Prospective Observational study, single centre study

**Place of Study:** Tertiary hospital in Western Maharashtra

**Duration of Study:** June 2015 to September 2016

**Sample Size:** 246 (as per evaluable patients attending medical emergency ward and general wards of a tertiary care hospital)

**End Point:** Discharge from the tertiary hospital or death

**Results and Conclusions:** In this study, majority of the subjects were in age group 13-20 years (104 out of 246 patients). There were 63.4% males and 36.6% females with male: female ratio as 1.7. Increased incidence of AUFI was seen in the months of June, July, August and September. During the study period, patients were maximum in the monsoon period (June to September) of 2015 & 2016 and least in summer (February to May) 2016. Fever (100%) was the most common symptom, followed by headache (73.9%), chill and rigor (63%), vomiting (52.8%). Others were myalgia, haemorrhagic manifestations, rash, retro-orbital pain, conjunctival suffusion and diarrhoea. Joint pain (5.7%) was the least common. Rash was seen in 20.7% patients. The other signs were ascites (10.9%), petechiae (10.2%), pibulfind (7.9%), and jaundice (7.9%). Edema (8.5%), hepatomegaly (4.8%), gum bleed etc. Maximum patients (56.9%) had normal haemoglobin concentration (>11 g/dl). Anaemia (<11 g/dl) was seen in 22.8% patients. Leucocytosis (WBC count >11,000/ cubic mm) was seen in 6.5 % cases whereas leucopenia (WBC count <4000/ cubic mm) was observed in 52.8% cases. Incidence of thrombocytopenia was 73.2% cases. 16.7% cases gave positive dengue PCR test. On dengue typing, most of these were dengue 2 (75.7%). Leptospirosis PCR was positive for 7.3% cases. However, in 76% cases, PCR test was negative due to unavailability of kits for other suspected cases. Hypotension (28.5%) was the most common complication, followed by bleeding (24.4%). Others were hepatitis (8.9%), renal failure (7.3%), sepsis (6.5%), ARDS (2.4%), encephalopathy (0.8%) and myocarditis (0.4%). The incidence of these complications was more in dengue cases (73.2%) than leptospirosis (61.1%) or undiagnosed (24.6%) cases. Duration of hospital stay varied with presence of complications. 64.6% were hospitalised for <4 days whereas 35.4% patients had a longer period (>4 days) of hospital stay.

**Aims and Objectives:** We aimed to study the prevalence of AUFI amongst indoor cases of fever in tertiary care hospital, to know the etiology of AUFI by PCR test, to study clinical profile and outcomes in patients of AUFI.

**Methods:** Prospective Observational study, single centre study

**Place of Study:** Tertiary hospital in Western Maharashtra

**Introduction:** In the Western world, the differential diagnosis for AUFI includes potentially significant illnesses such as malaria, dengue fever, enteric fever, Leptospirosis, Rickettsiosis, Chikungunya etc. Limited resources and the great diversity of AUFI etiologies in tropical regions challenges diagnosis, treatment and public health responses to endemic and epidemic diseases. Further confounding is the fact that a majority of patients present with non-descript symptoms and usually no focal point of infection. Health Care providers lacking proper diagnostic tools are usually unable to determine specific etiologies, often diagnosing patients presumptively based on clinical features and assumptions regarding circulating pathogens. This study was carried out to find the etiology of AUFI that present to a tertiary hospital in Western Maharashtra and remain undiagnosed after baseline investigations and to describe disease specific clinical profiles.

**Results and Conclusions:** In this study, AUFI related mortality among the study subjects, 70 (70.0%) were males and 30 (30.0%) were females. Majority i.e., 43 (43.0%) study subjects were in the age group of 18-25 years.

**Materials & Methods:** Present study was conducted on 102 patients who are admitted to the Tertiary hospital in Western Maharashtra (246 patients were evaluable).

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The Study of Hepatobiliary Manifestations in Dengue

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Introduction: Dengue virus infection is prevalent throughout India in Urban as well as Rural areas. Statistics reveal that Dengue has been endemic in 16 states of our country including Andhra Pradesh. The newly formed state of Telangana (post partition from Andhra Pradesh in 2014) also is considered endemic given the increasing number of cases and deaths from the region. This study is aimed at assessing the frequency and degree of hepatobiliary dysfunction in adults with dengue infection presenting to our tertiary care medical facility in Telangana State.

Materials & Methods: A prospective observational study was conducted on 120 adult patients of serologically proven dengue infection with hepatic and/or biliary manifestations, admitted during the period from June 2016 to June 2017 in the department of General Medicine, CAMS hospital, Karimnagar. Investigations included Complete blood count, Liver function tests, viral serology, sepsis screen, Ultrasound abdomen and chest X-ray. Degree of liver damage was classified according to Aminotransferase levels as: Grade A: normal levels; Grade B: elevated levels but < 3x reference values of at least one of enzymes; Grade C: elevated levels but < 3x reference values of at least one of enzymes between 3x to 10x; Grade D: elevated levels of one or both enzymes to > 10x normal values.

Results: A total of 120 patients with WHO defined case criteria for Dengue along with hepatobiliary derangements were included in the study. Majority of cases were in Age group of 20-59 years with M : F ratio of 1.7:1. Of all the cases, 53.3% patients were categorized into Dengue Fever (DF) group, 25% into Dengue hemorrhagic fever (DHF) group, 21.7% into Dengue shock syndrome (DSS) group in accordance to WHO guidelines. Hepatomegaly were observed more frequently in DHF. Hepatic tenderness was a frequent finding in DSS. Levels of hepatic transaminases were significantly higher in Dengue Shock syndrome as compared to non shock cases. Among DSS patients, 3.6% had grade A; 15.4% had grade B; 76.9% had grade C; 19.3% had grade D of elevations of aminotransferases. Among DHF patients, 3.3% had grade A; 43.3% had grade B; 66.6% had grade C; 6.6% had grade D of elevations of aminotransferases. Among DF patients, 14% had grade A; 54.7% had grade B; 39% had grade C; 1.5% had grade D of elevations of transaminases. Gallbladder wall Edema and Acute Acalculous Cholecystitis occurred more frequently in DSS patients (38.4%) followed by DHF (29%) patients. Plasma leakage as in ascites, pleural effusion comparatively occurred more in DSS group.

Conclusion: Significant Hepatobiliary derangement is seen in severe cases of dengue. Hence it is a useful predictor to assess the disease severity. Early recognition of such perturbations help guide further management to prevent mortality.

A Prospective Study of Clinical Profile and Outcome of Malarial Concurrent Infections with Special Reference to Dengue Malaria Co-Infection at a Resource Limited Tertiary Care Setup in Eastern India

Sanjay K, Surender T, Venkatrajaih N, Narayana P, Nikitha Dasari

Introduction: India accounts for highest number of malaria cases in Asia and second in the world. It occurs throughout the year with peak during and post monsoon season. The country has dense population of vectors and surge of different vector borne diseases during the season increases the chances of concomitant infections. Malaria itself causes transient immunosuppression leading to other co-infection with bacteria and parasites. These infections remains under suspected and un-diagnosed leading to delayed recovery and unnecessary morbidity. There are few studies in Asia and mostly from India, thus indicating a lesser importance to co-infections. We studied concurrent infections with malaria and their outcomes with special reference to dengue-malaria co-infections.

Methods and Materials: This study was conducted at School of Tropical Medicine, Kolkata and 120 consecutive diagnosed cases of malaria were included in this study. Patients with features of concomitant infection suggested by history, physical examination or general investigation were evaluated for common bacterial infections and dengue available at a resource limited tertiary care setup in India. Malaria diagnosis was made by thick and thin blood smear microscopy and rapid antigen test (RDT). Dengue infection was screened by NS1 antigen and confirmed by dengue specific IgM antibody by serum ELISA. The bacterial infections screening included (urine, sputum, blood) culture, Gram stain, widal test/ IgM typhi dot by ELISA for enteric fever. Assessment parameters included history, physical examination, and laboratory parameters. Malaria was evaluated as uncomplicated or complicated. Dengue was evaluated according to WHO definition of uncomplicated dengue fever (UDF), complicated dengue fever (CDF), dengue haemorrhagic fever (DHF) with grade IV of dengue shock syndrome (DSS) / expanded dengue syndrome (EDS).

Table 1: Distribution of co-infections with malaria

<table>
<thead>
<tr>
<th>Co-infection with malaria</th>
<th>Frequency</th>
<th>Associated organisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dengue</td>
<td>13</td>
<td>Dengue virus</td>
</tr>
<tr>
<td>Respiratory tract infection</td>
<td>2</td>
<td>Klebsella pneumoniae / Streptococcus pn</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>10</td>
<td>E. coli/Klebsella pneumonia</td>
</tr>
<tr>
<td>Typhoid fever</td>
<td>1</td>
<td>Salmonella typhi</td>
</tr>
<tr>
<td>HIV associated OIs (HAOIs)</td>
<td>1</td>
<td>M. tuberculosis</td>
</tr>
</tbody>
</table>

Table 2: Clinical characteristics of the population of dengue-malaria co-infections

<table>
<thead>
<tr>
<th>Indices</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of subjects (n/N)</td>
<td>13/100</td>
</tr>
</tbody>
</table>

Conclusion: Among 120 malaria patients 19 (15.83%) had concurrent-infections and 13 (10.83%) were diagnosed with dengue and malaria co-infection. Among bacterial com-porpatives—among 2 patients of sepsis- leach had pulmonary and urosepsis sepsis. 1 each had uncomplicated enteric fever and HIV associated disseminated tuberculosis. All 6 patients had fever even after full course of anti-malarial therapy (AMT). All 4 patients with bacterial infections had neutrophil leukocytosis even after AMT, dysuria was present in both patients of UTI, HAOI and enteric fever patient had hycytopenia.

Among dengue-malaria co-infection patients mean duration of fever on presentation was 5 ± 2.80 days; 4 (30.73%) remained febrile even after standard anti-malarial completion; 9 (69.23%) patient had rash at presentation and 6 (66.98%) had hypotension. After azithromycin 3 (23.08%) patients each had aspergillosis and pleural effusion. 3 (23.08%) females had menorrhagia and 1 male had haematuria. Mean platelet count during febrile phase was 88384 cells/mm³ and there were no significant difference with platelet count at onset of afebrile phase. 1 patient each had haemolytic anemia, cholecystitis and significant cough as presentation. Total 9 (69.23%) patients had vivax malaria. 8 (61.5%) patients had severe disease in form of 3 DHF, 2 EDS and 3 severe malaria (2-falciparum; 1- vivax). Patient characteristics are mentioned in Table 2.

Conclusion: A significant number of patients had concurrent infection. Patients with new onset fever in a treated case of malaria a secondary infection should be evaluated and simultaneous screening for treatment failure. Among concurrent infection with dengue platelet count during febrile phase was lower than in afebrile phase indicating malaria as dominant role in thrombocytopenia, mostly patients afebrile after antimalarial. The complications are predominantly due to dengue. Therefore dual testing for dengue and malaria should be done in a febrile patient and with optimum treatment outcome is favourable.
Indices | Values
---|---
Male/ Female | 7 (53.8%)/6 (46.2%)
Age (years) | 34.54
Mean duration of fever at admission (days) | 5 ± 2.80
No of patients febrile after antimalarial treatment (days) | 5 (38.46%)
Chills / rigor / both | 13/9/9 (69.23%)
Headache | 13 (100%)
Generalised body ache | 9 (69.23%)
Evident bleed | 4 (30.73%)
Nausea and Vomiting | 7 (53.8%)
Rash | 9 (69.23%)
Pain abdomen | 7 (53.8%)
Pulse rate (beats/min) | 91.07 ± 21.3
Bradycardia | 3 (23.08%)
Hypotension with bradycardia | 3 (23.08%)
Hypotension | 6 (66.98%)
SBP | 94.92 ± 21.87 (50-135)
DBP | 64.23 ± 13.94 (40-80)
Hematocrit | 38.92 ± 21.87 (20-40)
Plasma leakage | 6 (66.98%)
Hemoglobin (g/dl) | 12.81 ± 4.30 (8.6-14.9)
Hematocrit | 38.33 ± 15.65
TLC (cells/mm³) | 4876 ± 2500
Lympocytes % | 38.15 ± 8.99
BFPC | 8838 ± 52344 (13000-16000)
AFPC | 108513.8 ± 50768 (11000-22000)
Total bilirubin | 1.29 ± 0.80 (0.4-3.1)
SGOT | 87.92 ± 15.28 (35-298)
SGPT | 65.92 ± 15.18 (15-185)
ALKP | 100.53 ± 52.168 (52-168)
Creatinine | 1.179 ± 0.9-1.7
Blood sugar (mg/dl) | 84.38 ± 60 (50-140)
Plasmodium vivax/ falciparum | 9/2
Severe disease | 7
No of patients received transfusion- PRBC/ Platelets | 5/7
Atypical presentation of malaria/ dengue | 3
Death | 0
Antimalarial early treatment failure patients | 0

A Study of Clinicoetiological Profile, Complications and Prognosis in Patients with Fever and Thrombocytopenia

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Introduction: Fever with thrombocytopenia is a common clinical entity encountered in the medical wards especially during the months of June to September. This study has been done to evaluate the etiological profile, various complications and prognosis of fever with thrombocytopenia, with particular reference to the platelet count.

Materials: A cross sectional study was done during the months of July and August 2017 on the patients admitted with fever and thrombocytopenia in the medical wards of Government General Hospital, Vijayawada. Patients of age more than or equal to 14 years presenting with fever and thrombocytopenia with or without bleeding manifestations were included in the study. Patients with fever without thrombocytopenia and those with thrombocytopenia secondary to other causes like cirrhosis, malignancies were excluded from the study. Statistical analysis of the data was done using Percentages and Chi square test.

Observations: A total of 103 patients were studied. Mean age of presentation was 38 years. 49(47.6%) were males, 54(52.4%) were females. 30(29.1%) were diagnosed with Malaria, 19 (18.4%) with Dengue, 1(1%) with Typhoid while 53 (51.5%) had miscellaneous causes like Undifferentiated fever(46.6%), Sepsis, Scrub typhus, DIC etc. Mean platelet count was observed to be 51,272;2 (1.9%) of them had count less than 10000, 53(51.4%) had count in the range 10000-50000 and 48(46.7%) had count in the range 10000-50000. 19 (18.4%) had bleeding manifestations. Bleeding manifestations were common(73%) in the subjects was 47.75 ± 16.5years. There were 13 (82.1%) males and 3 (17.9%) female patients. There was history of occupational exposure among 8(50%) subjects. All subjects had history of fever. Ten (62.5%) had musculoskeletal symptoms. Neurological manifestations were present in 5 (31.25%) subjects.

Results: Records of sixteen patients were selected and studied. The average age of the subjects was 47.75 ± 16.5 years. There were 13 (82.1%) male and 3 (18.7%) female patients. There was history of occupational exposure among 8 (50%) subjects. All subjects had history of fever. Ten (62.5%) had musculoskeletal symptoms. Neurological manifestations were present in 5 (31.25%) subjects. Abdominal examination revealed hepatomegaly (n=2, 12.5%), splenomegaly (n=5, 31.25), hepatosplenomegaly (n=1, 6.25) and in one (6.25%) patient ascites. Two (12.5%) patients presented with multiple organ involvement. Blood investigations revealed anemia in 13 (82.1%), thrombocytopenia in 9 (56.25%), and elevated ESR in 7 (43.75%) patients. There were eleven (68.7%) patients with an abnormal LFT. Chest X ray was abnormal in 5 (31.25%) patients. Mean Brucella IgM titre was 4.18 ± 3.46 IU/ml. Different treatment protocols were followed. All patients recovered except for one who expired.

Conclusions: Brucellosis may present with multiple non-specific symptoms and signs or with localized organ involvement, often confusing the treating physician. A high index of suspicion is necessary to diagnose this condition.
Methods and Materials: An observational study was conducted in a tertiary care centre in which 30 patients were enrolled after the diagnosis of brucellosis was established. Their demographic data, clinical manifestations and outcomes were collected and analysed.

Results: All patients included in the study were in the age group of 15-60 years and hailed from rural areas. All the patients had significant history of occupational or domestic exposure to goat, sheep or cattle.

The most common presenting symptom was low grade fever of >3 months duration present in 100% patients. Other symptoms in descending frequency were lethargy (83.3%), backache (66.6%), headache (50%) and knee pain (6.6%). Lumbar spine involvement was more common, as seen in 33.3% patients, as compared to bilateral sacro-iliac joints involvement in 16.67% patients.

Two patients (6.67%) who had presented with fever and altered sensorium were diagnosed to have neurobrucellosis after appropriate serology and cerebrospinal fluid studies.

Conclusion: Early diagnosis of this rapidly emerging, underdiagnosed zoonotic disease facilitates prompt therapy that helps in timely management of this disease with drastic reduction in morbidity and mortality. Patients who developed the disease after exposure to goat and sheep had more severe disease as compared to those exposed to cattle.

Nephrology

A Study on Factors Affecting Quality of Life in Patients Undergoing Dialysis in Max Super Speciality Hospital, Saket, New Delhi

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Introduction: End stage renal disease (ESRD) is the terminal and final phase of loss of renal (kidney) function which can be acute or represent a progressive decline of many years. Patients with end stage renal disease have major organ failure which cannot be cured but can be treated with renal replacement therapy, dialysis, or kidney transplantation.

Renal Replacement Therapy: Renal replacement therapies are miracles of medical technology and the ability of these technologies to sustain lives is of unquestioned significance. Intermittent hemodialysis and peritoneal dialysis are the two modalities studied. However, medical effectiveness is increasingly viewed from multiple perspectives that include more than survival rates and clinical outcome. Patients’ functional status, well-being and satisfaction, along with treatment costs, also determine the effectiveness of care.

Quality of life (QOL): QOL has been defined as the amount of enjoyment and satisfaction that a person gets from his/her daily routine. It is a subjective entity. Patients with renal failure face many challenges due to their condition which may leave them feeling fatigued and depressed. Most of these patients choose to be placed on dialysis which can be debilitating and can threaten body image, finances, relationships and independency. One promising parameter might be protein-energy nutritional status, a relatively new definition of body stores and protein and fat-masses. Quality of care is continuously monitored by physicians, nurses and dietitians in patients under dialysis. Evaluation of patient quality of life allows us to understand the total effects of treatment and disease from the perspective of patient experience. The literature describes disease as physical and illness as the patient’s experience of physical disease.

Material: A cross sectional study was done on 152 dialysis patients in department of nephrology. EuroQOL and RAND SF 36 questionnaire were used for QOL estimation. Detailed clinical history, including dialysis symptoms, intradialytic complication and co-morbidities was taken. BMI, BCM and 24 hours dietary recall was done for all the patients. Lab Investigations like Complete blood counts, serum electrolytes, creatinine, urea, albumin, calcium, phosphorous, and IPTh were done in all cases.

Observation and Conclusion: Patients on hemodialysis and males had better scores in QOL domains. Patients with co-morbidities like diabetes and hypertension, and age >55years had lower scores in both HD and PD study groups. The scores were lower among patients who had anemia, hypoprolbinemia and/or those with co morbidities. Patients with hemoglobin>10gm/dl and serum albumin >3.8gm/dl had better scores. QOL scores are correlated with nutritional status of the patients on dialysis. SGA Category A patients had better scores along with patients who had DEI of >25kcal/kg and DPI of >0.8gm/kg. Maintaining hemodialysis adequacy with kt/v >1.2, was found to have better scores in all domains of QOL instruments. More PD patients were anemic as compared to HD patients. To conclude, patients on peritoneal dialysis, elderly, female, diabetic, anemic, patients with sleep disorders and patients who had poor nutritional status had poor/lower scores in almost all the domains of both the QOL instruments.

Clinical Profile of Hyponatremia in Tertiary Care Center in India: Retrospective Hospital Based Observational Study

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Introduction: Hyponatremia is the common of electrolyte abnormality. Hyponatremia is associated with altered sensorium, seizures, falls, and the cognitive dysfunction. Even mild hyponatremia could lead to severe complications and prolonged hospital stays. Understanding hyponatremia will help in efficient management of hyponatremia and allied co morbidities.

Methods: We have conducted the present study on 980 patients who have got admitted in hospital. They were categorized based on serum sodium level under 3 groups of Hyponatremia (Mild, Moderate and Severe). The data collected were analyzed for Clinical presentations, Severity, Etiology of hyponatremia.

Results: Hyponatremia was observed predominantly in the age group >70yrs (37.3%), with male predisposition (63%). Altered sensorium is most common presentation of hyponatremia. Disorientation is more in the moderate hyponatremia (64%) compared to severe hyponatremia (37%). SIADH has observed as leading cause of Hyponatremia. Respiratory causes pneumonia, asthma, OAD were the predominant causes of SIADH, followed by Dilutional hyponatremia and Drug Induced Hyponatremia. Of the various types of carcinoma, Lung and genitourinary cancer were the main causes of SIADH. The infections associated with hyponatremia were UTI (68%), Chest Infection (15%) and Cellulitis (14%). 42% population with hyponatremia had Diabetes Mellitus, of which 64% had peripheral neuropathy and 10% had diabetic foot and necrotizing fascitis.

Conclusion: This study summarizes the varied presentations of hyponatremia, its causes and co-morbidities which will provide better understanding of hyponatremia. Also aid the physician in diagnosing the precise cause of hyponatremia.

Study of Patients with Acute Kidney Injury in Critical Care Unit with Respect to Etiology, Management and Outcome

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Introduction: Acute kidney injury (AKI) encompasses a range of kidney diseases of acute onset. It is a frequently observed clinical syndrome in ICU and carries a high mortality rate over 50%. Reliable and comparable data about the clinical spectrum of AKI is necessary for optimizing management. Hence this study was conducted to describe the etiology, clinical characteristics, management and outcome of AKI in critically ill patients, without pre-existing renal disease, diagnosed using RIFLE criteria.

Material and Methods: A prospective study was done in 60 adult patients admitted to ICU with AKI or who developed AKI in ICU of KLES Dr Prabhakar Kore Hospital, Belagavi from September 2016
to August 2017. Patients with pre-existing renal disease, renal transplant recipients were excluded. Clinical data retrieved included primary diagnosis, presence of co-morbidities, past medical history, physical examination findings, lab investigations, treatment history, duration of ICU stay and need for renal replacement therapy. Follow-up data regarding their renal function was collected till their hospital stay.

Results: Among the patients enrolled in our study, most common cause of AKI was sepsis. Urinary tract infections were the most common source of sepsis. Age > 60 years, male gender were prevalent in majority of the patients. More than 60% patients had associated co-morbidities, type 2 diabetes being the most common. Hypotension was the most commonly associated clinical finding. Average duration of ICU stay was 5 days. 37.2% patients required hemodialysis during their stay in ICU. Among patients receiving hemodialysis, 41.5% expired in comparison to 35% deaths seen in patients not receiving hemodialysis.

Conclusion: Sepsis was the most common cause of AKI in the critically ill patients of our study. Majority of the patients did not require hemodialysis and were treated conservatively. About 60% of the total patients recovered normal renal function. Crude mortality rate among patients with AKI in our study group was 37%.

Cognitive Involvement in Type 2 Diabetes Mellitus by MOCA and MRI

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There are six key cognitive domains: language, learning and memory, social cognition, complex attention, executive function, and perceptual-motor function. These domains are variably affected when there is cognitive impairment. Type 2 DM, causes clinical and subclinical vascular changes to the brain, that can impact the cognitive ability of the patients.

Aims:
1. To study the association between cognitive impairment and type 2 diabetes and characterise it clinically.
2. To study the relationships between cognitive performance and magnetic resonance imaging (MRI) measures and CIMT values

Methods and Material: Prospective case-control study with 41 cases of Type 2 diabetes, aged 40 to 60 years, with a minimum duration of disease ≥5 years were taken. Subjects who are smokers, have pre-existing cognitive decline, CVA, IHD, renal impairment, alcoholics, hypertension, dyslipidemia, recreational drug users, were excluded from the study. There were 29 age, sex-matched controls.

To ascertain the subject’s cognitive state and to characterise it, the study subjects were administered Montreal Cognitive Assessment (MOCA).

The subjects were also taken up for MRI brain. Brain MRIs were obtained with a 1.5 T scan (1.5 T). Whole brain axial and coronal fluid attenuated inversion recovery (FLAIR) and axial T2-weighted images were acquired to allow detailed visualisation of white matter lesions and lacunar infarcts. Coronal FLAIR images and sagittal T1-weighted images were acquired to allow measurement of medial temporal lobe atrophy and cerebral atrophy.

CIMT was measured by B-mode ultrason for all subjects. An upper limit of 0.8mm was chosen as cut-off for normal for the present study.

Results: The patients with type 2 DM had a higher occurrence of mild cognitive impairment (MCI)- 6 (14.6%) compared to non-diabetic population- 1 (3.4%). Duration of diabetes, control of diabetes and the presence of retinopathy were significantly associated with cognitive dysfunction.

Patients with diabetes had impaired cognitive performance in all cognitive domains but statistically significant changes only in the domains of executive functioning, information processing speed and memory.

On MRI, periventricular hyperintensities (100%) and white matter lesions (100%) were the commonest findings in the presence of MCI, followed by cerebral atrophy (85.7%). Periventricular hyperintensities was most independently associated with cognitive impairment.

CIMT was abnormal in 85.7% of the patients with MCI, with a mean CIMT of 0.89±0.12 compared to patients with normal cognitive states, 0.74±0.11, p<0.001.

After adjusting for potential confounders, participants in the highest IMT quartile had a higher likelihood of having cognitive impairments compared with the lowest IMT quartile (odds ratio: 3.01, p<0.001).

Conclusions: Type 2 DM is associated with diminished cognitive function in different cognitive domains, most significantly executive functioning, information processing speed and memory. Metabolic control of DM as well as the duration of DM seem to be important disease variables in the impaired cognitive performance. The presence of retinopathy has significant correlation with MCI. Periventricular hyperintensities strongly suggests MCI, in MRI brain. Increased CIMT is independently associated with risk of cognitive impairment.

Study of Correlation of Serum Homocysteine Levels in Stroke in Young

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Introduction: Stroke is a non-communicable disease of increasing socioeconomic importance in ageing populations. According to WHO, stroke was the second most common cause of worldwide mortality in 1990 and the third

Neurology

Proinflammatory Cytokines in Ischemic Stroke and their Correlation with Stroke Severity and In-Hospital Outcome

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Introduction: Acute Ischemic stroke (AIS) is a major cause of mortality and permanent disability worldwide. Recent evidence indicates towards major role of proinflammatory cytokines in the pathogenesis of AIS. However, several recent studies involving IL-6 and TNF-α in AIS patients have been inconclusive so far. Our study aimed at estimating the serum levels of IL-6 and TNF-α in AIS patients at baseline and to correlate them with stroke severity and in-hospital mortality.

Material: This study was a hospital based cross sectional observational study conducted on 100 adult AIS patients. Various parameters comprising of demographic, clinical, laboratory and radiological variables were assessed. Also 50 healthy adults were taken up to study TNF-α and IL-6 levels. All the patients were followed up till death / discharge from hospital.

Observation: Out of 100 patients 19% died and 81% were discharged. Mean serum IL-6 and TNF-α levels were elevated in patients as compared to healthy adults (p<0.0001 for both). Significant positive correlation was seen between IL-6 and TNF-α levels with NIHSS score and infarct volume (p<0.0101 and p<0.0288 for IL-6 and p<0.0001 for both for TNF-α). On multivariate analysis, serum IL-6 level, GCS and NIHSS score were found to be independent risk factors for in-hospital mortality. Also, NIHSS and GCS score at the time of presentation were the significant predictors of disability at the clinic of discharge. There was no association between TNF-α level and in-hospital outcome.

Conclusion: Our study highlights higher baseline serum levels of IL-6 and TNF-α in AIS patients and their significant positive correlation with stroke severity, indicating possible role of proinflammatory cytokines in the pathogenesis of ischemic stroke. Although IL-6 level was found to be a significant risk factor for in-hospital mortality, TNF-α failed to show any association with in-hospital outcome in our study.

Cytokine levels were significantly higher in AIS patients as compared to healthy adults.
commonest cause of mortality in most developed countries. In recent estimates made in 1999, the number of deaths due to stroke reached 5.5 million worldwide, with two thirds of these deaths occurring in less developed countries. Demographic changes, urbanization and increased exposure to major stroke risk factors will fuel the stroke burden in the future. The prevalence of stroke in India varies in different regions of the country and ranges from 40 to 270 per 100,000 population. Approximately 12% of the strokes occurs in population <40 years of age. Major risk factors identified in India are hypertension, hyperglycemia, tobacco use and low hemoglobin levels.

Materials:

Study Population: Total of 50 patients with stroke in young were enrolled for the study. Patients are selected for the study who satisfied all the inclusion and exclusion criteria. Written consent was obtained from all the patients/care providers.

Study Duration: This study was conducted for a period of twelve months from January 2015 to December 2015.

Study Design: Cross-sectional Study.

Methods: Detailed clinical history was taken from each patients and a complete review of their case notes performed. A complete clinical examination of the nervous system and cardiovascular system was done for each patient.

Results: In our study, we took 50 patients with first attack of acute ischemic stroke between age group 12 and 40. We have excluded common conventional risk factors for stroke in young. These patients are put on all important investigations including fasting plasma homocysteine levels. We had 42 male patients and 8 female patients with stroke. Out of them, 41 were taking non-vegetarian food substance and 9 were taking strict vegetarian food substance since their childhood period. These patients are carefully chosen as to exclude some common conditions and substances which causes significant elevation of homocysteine level. Cross sectional study was done on these patients by obtaining fasting plasma homocysteine on the second day after admission. The results are obtained after photometric analysis. Our study shows prevalence of stroke in young is more in males when compared to females (42 patients versus 8 patients). Also the prevalence of hyperhomocystenimia is more common in males (14 patients out of 42 patients) versus females (4 patients out of 8 patients). But the proportion of hyperhomocystenimia is more in females than males (50% versus 33.33%). Our study shows occurrence rate of stroke increases as the age increases. It is rare before age 20 (only 3 patients below age 20 had stroke). Also the prevalence of hyperhomocystenimia is more in age group between 31 - 40 (48%) as 13 out of 27 had hyperhomocystenimia. Our study showed 14 out of 41 non-vegetarians had hyperhomocystenimia (34.15%) also 4 out of 9 vegetarians had hyperhomocystenimia (44.44%). This shows that vegetarians have higher prevalence of hyperhomocystenimia than non-vegetarians. Our study shows most of the patients are in moderate range of hyperhomocystenimia (14 out of 18) i.e. 77.77% and none of the patients had severe hyperhomocystenimia. Five patients in our study had family history of stroke out of which 3 had hyperhomocystenimia (2 males and 1 female). In our study, 3 out of 50 patients died in the course of treatment in the hospital during the study period. All these patients (2 males and 1 female) had hyperhomocystenimia (in moderate range). From this study, it is clearly shown that homocysteine has a definite role in stroke in young, also proportion of hyperhomocystenimia is more among vegetarians than the non-vegetarians.

Conclusion:

• High prevalence of elevated homocysteine in patients with stroke in young.
• There is a definite association of homocysteine in patients with stroke in young.
• Homocysteine may play a role in pathogenesis as mentioned in the literature above which needs further studies.
• Level of homocysteine has a definite role in determining the mortality in patients with stroke in young.
• Level of homocysteine has its implication in prognosis and outcome.

Study of Plasma Vitamin C Levels and Type, Severity and Outcome in Patients with Acute Stroke

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Introduction: Several cohort studies found a significant protective association of consumption of fruit and vegetables or surrogate nutrients (particularly vitamin C) with stroke. Such a protective association has been reported not only for dietary intake but also for serum or plasma concentration of vitamin C. Vitamin C acts as an antioxidant and free radical scavenger thereby inhibiting lipid peroxidation and thus, prevents atherogenesis. We took up this study to find the association of plasma vitamin C levels in patients of acute stroke with the type, severity and outcome of stroke.

Methods: A hospital based case-control study included 45 cases of acute stroke (both ischemic and hemorrhagic) and 45 controls. The plasma vitamin C estimation was done using the human vitamin C enzyme-linked immunosorbent assay (ELISA) kit. Serum level less than ≤0.5mg/dl indicated vitamin C deficiency. Extent and severity of stroke was assessed by NIH stroke scale and Glasgow coma scale.

Results: Vitamin C was found deficient in 68.9% cases and 35.6% controls. Vitamin C levels were significantly lower in patients as compared to controls (P=0.0002). Mean value in cases was 0.32 ± 0.41 mg/dl and in controls was 1.86 ± 2.4 mg/dl. Univariate Logistic Regression for risk factors of acute ischemic stroke showed that dyslipidemia and hypertension were also significantly associated (P=0.003, 0.001, respectively). After adjusting confounding factors by multivariate logistic regression analysis, vitamin C levels were still significantly associated with stroke (P=0.019). We found no significant relation between vitamin C deficiency and severity of stroke assessed by GCS (P=0.870), NIHSS (P=0.563) and inhospital mortality (P=0.731).

Conclusion: Vitamin C deficiency has an independent association with acute stroke. Vitamin C levels are lower and its deficiency is commoner in patients with stroke than in controls.

Prognostic Correlation of Hyperglycemia in Ischaemic Stroke

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Background: Worldwide stroke is one of the leading causes of mortality and morbidity. According to WHO 2012, of the 56 million global deaths, 6.7 million can be attributed to stroke. Hyperglycemia on admission increases the risk of death and disability in patients with acute ischaemic stroke. Increased infarct size and hemorrhagic transformation are some of the complications due to hyperglycemia. This study was conducted to find out a correlation between admission hyperglycemia and stroke outcome.

Material and Methods: A total of 150 patients with acute ischemic stroke were included in a hospital based longitudinal study to identify the independent factors (demographic, clinical, and biochemical parameters) associated with poor outcome (functional impairment—mRS ≥ 3) and mortality at 7 days of follow-up.

Observations: Nearly 75% of the patients presented with moderate-to-severe stroke. Out of the 150 patients 82 patients (54.7%) had severe disability at admission. Patients with hyperglycemia exhibited greater functional impairment i.e. 56 out of the 57 patients had mRS2 ≤ 3, than those with normoglycemia (P = 0.0002) on admission. Even in the follow up after 7 days, the functional impairment was greater in patients with hyperglycemia (P < 0.0001). A positive correlation was also observed between the NIHSS and the RBS at the time of admission (r = 0.33, P <0.0001). Admission RBS (P < 0.001) and NIHSS severity (P < 0.0001) were potential risk factors for severity of stroke at day 7. Mortality was also higher in the hyperglycemia group with 9 deaths out of 56 (P Fischer Exact = 0.002).
odds ratio with 95% CI was 8.81 (1.83 - 42.42) (P = 0.007).

**Conclusion:** Stress hyperglycemia was associated with higher risk of poor functional outcome and mortality in acute ischemic stroke. Therefore timely identification and management of hyperglycemia could help in reducing the morbidity and mortality in patients with hyperglycemia in acute ischemic stroke.

### Case Series of Neutrotuberculosis-Compilation of Varied Presentations

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**Introduction:** Neutrotuberculosis is a common neurological disorder in developing country with high morbidity and mortality. Diagnosis is based on clinical features, c.s.f. Changes, & imaging appropriate antitubercular agents should be given as early as possible. Role of corticosteroids is controversial but should be administered to all patients presenting in stage iii. Surgical procedures are directed when, hydrocephalus, focal lesions like intracranial tuberculomas, and tubercular abscesses when located in cerebral or cerebellar hemispheres, uncommonly in brainstem and very rarely in spinal cord. Almost all patients respond well to medical management.

Increasing prevalence of HIV infection, in today’s scenario, in under developed countries contributes to prevalence of neutrotuberculosis. Other important risk factors includes over-crowding of urban population, poor nutritional status, appearance of drug-resistant strains of tuberculosis, ineffective tuberculosis control programmes.

**Case 1:** Infection as rapidly progressing dementia reversed with medication.

Presenting a case of 18 year old female,student with complaints of fever since two months, altered behaviour since two months, weakness of left upper and lower limb since three days.

Patient conscious, mild disorientation to time and place.

Reduced frontal lobe performances.

Left hemiparesis with umn facial on the right side.

Other systems being normal.

On further investigation ct brain showed frontal lobe hypodensities on both sides right greater than left.

MRI-multiple infarcts of varying ages with frontal lobe hyperintensities on the right side greater than left with meningial enhancement.

CSF analysis; showing consistent results with meningitis and cbnaat proved per detection of tubercular genome sensitive for rifampicin.

Patient has been started with cat one,with dexamethasone tapering doses and pyridoxine.

After two weeks of treatment weakness improved and patient was able to walk residual weakness in upperlimpil present. behaviour normalised.

**Case 2:** Isolated pontine tuberculoma in a denovo RVD positive.

65 year old female with symptoms of nausea vomitings consistent with PCA stroke like episodes on screening RVD positive,on further investigation presented as isolated pontine tuberculoma.improved with medication.

**Case 3:** As dorsal epidural abscess.

A 35 year old male patient with complaints of gradual onset weakness with spinal tenderness,constitutional symptoms of weight loss,fever since a month.on investigations found to have epidural abscess in mid thoracic region was managed accordingly.

**Case 4:** Multiple ICSOL with spino cerebellar symptoms.

25 year old male with complaints of increased stiffness in both lower limbs since six months imbalance while walking since 4 to 5 months.Involuntarymovements of ankle on touching the ground since two months.on further examination found to have brainstem,corticospinal tract, spinocerebellar connections involvement, on MRI multiple ICSOL in the gray white matter junction in cerebrum.cerebellum hemispheres,mid brain,medulla,upper cervical cord,cbnaataken diagnosis,was treated accordingly.

**Case 5:** Spinal tuberculosis mimicking acute transverse myelitis

45 year old male with rvd positive drug defaulter with sudden onset of weakness of both lower limbs,loss of sensations of all modalities from umbilicus with bowel and bladder involvement.on examination point against atm was spinal tenderness,mri proved diagnosis of spinal tuberculosis and was treated accordingly.

**Case 6:** Cold Abcess

16 year old girl known case of pulmonary tb now with para spinal swellings with plerural connections caseation,cbnaat helped in diagnosis,was treated accordingly.

**Case 7:** Left capsule ganglionic infarct with multiplw lower cranial nerve palsies.

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### A Comparative Study of Severity of Stroke with Red Cell Distribution Width

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**Introduction:** Red cell distribution width (RDW) is a hematological parameter routinely obtained as a part of Complete blood count. Recently RDW has emerged as a potential independent predictor of clinical outcome in patients with established cardiovascular disease. However, little is known about the role of RDW as a predictor of severity among persons with ischemic stroke. In disorders other than anemia, the prognostic importance of high RDW levels previously received insufficient attention because of lack of knowledge. However, high RDW levels are associated with a poor prognosis in certain disorders such as acute Myocardial Infarction, stroke and peripheral artery disease. Hence elevated RDW may be a useful parameter to follow the development of atherosclerosis and hence stroke.

**Objectives of the study:** a) To find out the association between Red Cell Distribution Width(RDW) and Glasgow Coma Scale(GCS), National Institute of Health Stroke Scale(NIHSS), and Canadian Neurological Scale(CNS) in patients with acute ischemic stroke. b) To assess the association of RDW and neurologic outcome at the time of discharge.

**Materials and Methods:** 70 patients who fulfilled the inclusion and exclusion criteria and are admitted in KIMS hospital with diagnosis of acute ischemic stroke were enrolled into the study. Study conducted for a duration of 18 months. Sampling method: Purposive sampling. Statistical analysis: All continuous variables were analysed using student ‘t’ test.

**Results:** At admission, patients were assessed for severity of stroke with GCS, NIHSS and CNS. When each of the scoring was compared to RDW, it was found that those with severe stroke had higher RDW at admission [Mean RDW 17.17±3.4 in severe stroke against 14.3±1 in mild stroke]. [Mean RDW of 18.8±2.6 in severe stroke (CNS) against 13.4±1.5]. This difference in RDW was statistically significant in both severity scores (p value <0.05). When outcome was compared to mean RDW at admission it was found that those who died had significantly higher mean RDW at admission (18.4±4.0 as against 14.8±0 in survivors). This difference was statistically significant (p value<0.05). Suggesting higher RDW at admission could predict more severe forms of stroke.

**Conclusion:** Stroke is a life threatening neurologic disorder and this study shows that a simple measurement of RDW can predict severity and outcome and help in more aggressive intervention in these group of patients.

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### Clinical Profile, ICH Score and Outcome in Intracerebral Hemorrhage

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**Introduction:** Intracerebral hemorrhage (ICH) is the second most common cause of stroke with mortality reaching as high as 50%.
Aims and objectives: We aimed to study the clinical profile, risk factors, complications, and outcomes associated with intracerebral hemorrhage and to correlate the ICH score at admission and at 24 hours with 30 day mortality in ICH.

Methods: A cross-sectional prospective observational study, single tertiary care centre study over July 2015 to December 2016. We studied 200 patients followed for 30 days or death whichever was early.

Results: Male:female ratio was 10:3.8 with mean age 68.22 ± 26.59 years. Predominant risk factor of hypertension was present in 84% followed by obesity in 58.5%. Focal neurological deficit (98.5%) followed by altered sensorium, headache, papilledema, pupil signs and seizures were common clinical features. The mean systolic and diastolic blood pressures on admission were 180.12 ± 50.4 and 107.23 ± 20 mmHg, respectively. The mean GCS on admission and at 24 hours post-admission was 11.25 ± 8.73 and 10.79 ± 10, respectively. Most common location of the hematoma was putamen (43%) followed by lobar, thalamus, brainstem and cerebellum. 42.5% had intraventricular hemorrhage and 51% had mass effect. 90.5% of patients had hematoma volume <30 cc and 9.5% had >30-60 cc. On admission 38.5% of patients had ICH score of 0 while 20.5% patients had an ICH score of 1. 24 hours post-admission, 41.5% patients were having an ICH score of 0 while 19.5% patients having an ICH score of 1.95% had hadneurosurgical intervention. 26% required ventilator support. 65% patients survived and at 30 days follow up, 30% who survived were dependant and 70% independent.

Conclusion: The factors significantly affecting mortality were higher age, higher systolic BP on presentation, lower GCS on admission, presence of intraventricular hemorrhage and mass effect, higher ICH score and requiring ventilator support, neurosurgery and antibiotic requirement.

The factors significantly predicting poor functional outcome at 30 days are higher systolic blood pressure on admission, lower GCS on admission, presence of mass effect and higher ICH score on admission.

Prevalence of Malnutrition in Parkinson Disease from Tertiary Care Centre in North India
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The overall 3%-60% of PD patients are reported to be at risk of malnutrition. There is limited data in India regarding nutritional assessment among PD patients. The pathogenesis of weight loss and low body weight in PD has not been elucidated, but the main causes appear to be reduced energy intake, due to several neurological, social and psychological factors, and increased energy expenditure secondary to dyskinesia.

Malnutrition itself is associated with poor outcomes such as decreased quality of life, longer recovery from illness, higher likelihood of falls, increased risk for osteoporosis and increased risk of even hospitalization.

There is limited data in India regarding Nutritional Assessment of PD. So, we plan to assess Nutritional Aspect of Parkinson Disease patients visiting OPD

Aim: To assess nutritional status of PD patients and comparison with controls from community population in North India.

Materials & Methods: PD patients visiting OPD were selected for assessment of nutritional status and compared with age, gender matched controls in ratio of 3:1.

The study population was divided into three groups according to total score of MNA (17-30): group I malnourished/at risk of malnutrition if score < 23.5 or group II normal nutrition is > 23.5. The subgroups were then compared. Patients with other comorbidities affecting the nutrition were excluded from the study.

Observations: We studiedseventy five patients of PD out of which, forty three (57.3%) had malnutrition or were at risk of malnourishment,while only five (14.2%) out of thirtyfive from the control group had risk of malnutrition.

On comparison between the Cases and Controls, statistically significant malnourishment (MNA Scale) was found in Cases. Incidence of malnutrition was higher in PD patients with severe disease (H&Y stage ≥ 3) (p=0.029) and those on higher doses of LED (p=0.028) and Patients who were malnourished had increased number of falls. There was no statistical significant correlation of age of onset (p=0.096) gender (p=0.903) and duration of disease (p=0.102) with nutritional status.

Conclusion: We used MNA scale as a screening tool for malnutrition and high rate of 57.3% had malnutrition or were at risk of malnourishment. On comparison between the Cases and Controls, statistically significant malnourishment (MNA Scale) was found in Cases. Incidence of malnutrition was higher in PD patients with severe disease (H&Y score ≥3) (p<0.029) and those on higher doses of LED (p<0.028) and Patients who were malnourished had increased number of falls. There was no statistical significant correlation of age of onset (p=0.096) gender (p=0.903) and duration of disease (p=0.102) with nutritional status.

Conclusion: Study demonstrates that hyponatremia at admission in acute ischemic stroke patients is associated with acute mortality, worse NIHSS score at admission and at discharge, and longer duration of ICU and hospital stay.

Key Words: Hyponatremia; prognosis; acute ischemic stroke; mortality; NIHSS Score.

Correlation of Mean Platelet Volume (MPV) with CT Head in Diagnosis and Prognostication of Acute Stroke
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Background and Objectives: Among all the neurologic diseases of adult life, stroke ranks first in frequency and importance. Platelets play important role in the pathophysiology of ischemic stroke but the effect of platelet count and dysfunction in the pathogenesis of hemorrhagic stroke is poorly understood. Mean platelet volume is an indicator of platelet function or reactivity. Large platelets are metabolically more reactive, produce more prothrombotic factors and aggregate more easily. Hence the study is done assess the MPV in acute stroke subtypes in correlations with C T Head including its relation with prognosis.
and outcome

**Aim of the Study:**
1. To study Mean platelet volume in acute stroke and its subtypes including its relation with prognosis and outcome.
2. To study the correlations of Mean platelet volume with C T Head finds in relation to prognosis and outcome.

**Methods:** 100 patients who were admitted to K R hospital with acute stroke between January 2016 –December 2016 were taken by convenience sampling and subjected to complete haemogram and followed up for one week to assess the outcome using Modified Rankin Scale.

**Results:** The association of MPV between patients suffering from ischemic stroke and Hemorrhagic stroke was analysed using independent sample t test. The MPV in ischemic stroke patients was 11.36 (Standard deviation 0.101) and mean platelet count in hemorrhagic stroke patients was 9.45 (Standard deviation 0.52). This difference was highly statistically significant with p value <0.001.

**Conclusion:** Mean platelet volume was significantly high in ischemic stroke compared to haemorrhagic stroke and high MPV was also associated with poor prognosis and worse outcome. MPV is a simple and inexpensive bedside tool to assess the prognosis in different types of the stroke in primary care center during emergency situations where C T is not available.

**Key Words:** stroke, MPV, stroke outcome

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**Study of Carotid Intima Media Thickness in Patients with Acute Ischemic Stroke and its Correlation with Risk Factors of Ischemic Stroke - A Case Control Study**

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JSS Medical College, Mysore, Karnataka

Stroke is the leading cause of mortality worldwide. Carotid Intima Media Thickness (CIMT) is a marker of atherosclerosis and is also a marker for ischemic stroke.

**Aims**
1. To assess the value of carotid intima media thickness at which patients with risk factors can develop acute ischemic stroke.
2. To correlate carotid intima media thickness with risk factors of acute ischemic stroke.

**Material & Methods:** This study was done at KIMS Hospital, Bangalore between December 2010 to September 2012. This is a case control observational study which has a sample size of 50 cases and 50 controls. Method of collection of data was by patient evaluation which was done by taking detailed history, clinical examination and laboratory investigations through a proforma specially designed for this study. Cases were subjects who had ischemic stroke and Infarct proven by CT/MRI of brain, Controls were subjects without stroke matched to cases by age, gender and risk factors like diabetes, hypertension, smoking and dyslipidemia. Subjects in both groups underwent carotid Doppler investigation with 7.5 MHz linear superficial array probe to determine CIMT and presence of plaques.

**Results:** Out of 50 cases, 46 had CIMT between 0.06-0.20 cm [92%] and out of 50 controls, 45 had CIMT between 0.06-0.20 cm [90%]. Most of our cases had CIMT above 0.06 cm, so we can hypothesize that people with risk factors having CIMT above 0.06 cm are more prone for ischemic cerebrovascular accidents. Mean CIMT in cases with risk factors is significantly increased when compared to controls with risk factors.

**Conclusion:** People with risk factors [age> 50 years, DM, HTN, Smoking and Dyslipidemia] having CIMT above 0.06 cm are more prone for ischemic CVA, so people with risk factors should undergo screening for CIMT measurement by Carotid Doppler which is non invasive and cost effective and if their CIMT is above 0.06 cm they should undergo early medical intervention to take care of risk factors and lifestyle modifications, so that they can be prevented from ischemic CVA in future.

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**Poisoning and Toxicology**

**Clinical Profile of Organophosphorus Poisoning and Importance of Serum Creatinine Phosphokinase Levels as Prognostic Marker**

**Arun Tiwari, VB Singh, Rahul Singla, BL Meena, Deepak Singh, RajkumarLakhwal**
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**Introduction:** Organophosphorus pesticide poisoning is a serious occupational hazard accounting for more than 80% of pesticide related hospitalization. India being an agriculture based country, OP remains the main pesticide agent. Parathion, Malathion, Methyl parathion, chlorpyriphos, diazinon, dichlorvos, monochrotophos and azinphos methyl are commonly used agents.

**Organophosphorus compound inactivates Acetyl Choline Estrase enzyme that degrades neurotransmitter Acetyl Choline into choline and acetic acid.** ACh is found in central and peripheral nervous system, neuromuscular junctions and red blood cells. Inactivation of ACh E leads to accumulation of ACh throughout the nervous system, resulting in overstimulation of muscarinic and nicotinic receptors.

**Organophosphorus can be absorbed cutaneously, ingested, inhaled or injected.**
1. **Muscarinic Effects:**
   - **Cardiovascular:** Bradycardia, Hypotension
   - **Respiratory:** Rhinorrhea, Bronchorrhea, Bronchospasm, cough, severe respiratory distress
   - **Gastrointestinal:** Hypersalivation, nausea, vomiting, abdominal pain, diarrhea and fecal incontinence.
   - **Genitourinary:** Incontinence
   - **Ocular:** Miosis
   - **Glands:** diaphoresis, increased lacrimation
2. **Nicotinic Effects:**
   - Muscle fasciculations, cramping, weakness and diaphragmatic failure.
3. **CNS effects:**
   - Anxiety, emotional liability, restlessness, ataxia, tremors, seizures, coma

Clinical syndrome has 3 phases:
1. Initial Cholinergic Phase
2. Intermediate Syndrome
3. Delayed Polyneuropathy

Complications Include:
- Acidosis, respiratory paralysis, acute renal failure, seizures, arrhythmias, aspirations coma and even death. Early diagnosis is key to cure.
- Till now, investigations comprise serum erythrocyte cholinesterase(EChE) and plasma cholinesterase (PChE) levels of which are reduced in OP poisoning. These investigations are costly and are not readily available in our country. Besides, the kinetic study of inhibition of human AchEs by Demeton-S-Methyl(DES) an insecticide has shown that cholinesterase based titration methods are not suitable for estimation of OPs.

There are emerging options for new cheaper and/or easily quantifiable biochemical markers in relation to OP poisoning like creatine phosphokinase (CPK), Lactate dehydrogenase (LDH), Seum immunoglobulin (IgG, IgA), circulating complements (C3, C4) etc.

Estimation of CPK level is easy and levels are increased both in acute phase as well as in intermediate syndrome due to muscle fibre necrosis.

Considering all these factors this study is being undertaken to assess the usefulness of CPK levels in OP poisoning patients as easily available biomarkers.

**Methods:** Source of data : Patients admitted to Department of Medicine of PBM and Associated group of hospitals with Organophosphorus Poisoning.

**Study Design : Cross Sectional and Prospective Study.**

**Study Period : 1 year**
**Sample Size : 93 patients**

**Inclusion Criteria:**
- All cases of acute Organophosphorus poisoning admitted within 12 hours of consumption.
- Age above 14 years

**Exclusion Criteria:**
1. Other Pesticide Ingestion
2. Mixed Poisoning
3. Consumption of poison with alcohol
4. Known medical illness eg. Chronic liver Disease, Myopathy, Malignancy, Renal failure, Autoimmune disorder, trauma
5. Patients on chronic drugs like statins, steroids.

Methodology

After obtaining clearance and approval from the institutional ethics committee and written informed consent of caregiver, fulfillment of inclusion and exclusion criteria patients were enrolled in study.

Confirmation of OP poisoning was done by seeing container. Once established all baseline clinical findings recorded. Clinical severity was categorized according to Peradeniya Organophosphorus Poisoning Scale.

### Parameters Criteria Score

<table>
<thead>
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<th>Parameters</th>
<th>Criteria</th>
<th>Score</th>
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<td>Pupil Size</td>
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<tr>
<td></td>
<td>&lt;2 mm</td>
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</tr>
<tr>
<td></td>
<td>Pin Point</td>
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<tr>
<td>Respiratory rate</td>
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<tr>
<td></td>
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<tr>
<td>Level of consciousness</td>
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</tr>
<tr>
<td></td>
<td>Impaired response to verbal commands</td>
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<tr>
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<td>No response to verbal commands</td>
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</table>

Sample was collected aseptically by a single pricking after initial resuscitation, from peripheral vein without tying any tourniquet. The levels of serum CPK, EchE and pH were measured following admissions. Patients were treated with 2-PAM and adequate atropinisation. Intra muscular injections were avoided. Before discharging the patient serum CPK evels were reevaluated on 5th day and response was tabulated. RBC Cholinesterase activity was measured by procedure of Voss and Sachse. CPK was measured by spectrophotometric methods. Normal range of CPK ws taken to be 51-294 for males, 39-238 IU/L for females.

Patients requiring ventilator support were put on mechanical ventilator in ICU as per standard ventilator guidelines. After weaning off from ventilator patients were transferred back to genical ward.

All patients were evaluated for the intermediate syndrome and other complications like OP induced neuropathy, Ventilator associated pneumonia for which necessary antibiotics were started.

The serum CPK levels on day 1 were correlated with initial Peradeniya scoring and subsequently on day 5.

Data obtained was statically analysed using:
1. Chi square test
2. Analysis of variance (Anova)
3. Unpaired Student T test

SPSS version 20 was used for statistical analysis.

**Observations:** The present study was conducted on total 93 patients. Out of total 93 patients 41 were in mild POP scale group, 41 patients were in moderate POP scale while 11 patients were in severe POP scale.

Mean age, gender, occupation and residential area distribution according to severity were found to be statistically insignificant.

In the present study out of total 93 patients 82.8% patients had ingested poison while 17.22% had inhaled. According to POP scoring in Mild POP 31 were of ingestion and 10 were of inhalational; in moderate POP 36 were of ingestion and 5 were of inhalation; among severe POP scoring 10 were of ingestion and 1 was from inhalation. This difference was found statistically insignificant (p<0.05).

90.9% cases were of suicidal intention in severe POP group while in moderate POP group 85% were suicidal and in 51% in mild POP group were of suicidal intentions.

Mean pulse in mild POP scale patients was 69.17±12.23, in moderate POP scale group 53.80±7.45 and in severe POP scale group mean pulse was 46±12.98 this difference was found to be highly significant statistically.

Mean systolic BP in mild POP scale patients was 118.78±12.88 mmHg, 103±16.86mmHg in moderate group and 91.81±16.86 in severe group and this difference was found to be highly significant statistically.(p<0.001).

Mean CPK in mild POP patients was 307.63±155.74, in moderate POP scale it was 649.73±395.80 and in severe POP scale patients CPK was 920.63±355.32 and the difference was found statistically highly significant.(p<0.001).

Using regression analysis according to CPK level on day 1, highly significant difference was found when CPK compared with POP score, amount of atropine, pH(p<0.001).

Insignificant difference was found when CPK compared with duration of ventilation (p>0.05)

When CPK levels were correlated with POP score using regression analysis resulting rho(r) value was 0.590 with highly significant p value of <0.001 which is positive uphill relationship.

There was a statistically significant drop of CPK values on the day 5th as compared to day 1 in all three groups according to POP severity scoring.

When we compared CPK level with final outcome the difference was found statistically highly significant (p<0.001).

Mean CPK level in the group of developing complications was 7555.59±392.88 as compared to 382±274.19 in group having no complications, p value being <0.001 i.e. highly significant.

Intermediate syndrome developed in 7 patients out of total 93 patients. Mean CPK levels on day 1 with intermediate syndrome was 970±629.86 as compared to 495±324.44 in patient without intermediate syndrome and this was statistically significant (p<0.001).

Conclusions: The mentioned study was conducted in Department of General Medicine, S. P. Medical College and associated group of hospitals, Bikaner, Rajasthan.

93 patients of Organophosphorus poisoning were enrolled after inclusion and exclusion criterias; Peradeniya Organophosphorus Poisoning (POP) scale was used to assess the severity scoring. SeumCPK levels were measured on day 1 of admission and re-evaluated at the end or after 5 days. Following observations were made:

1. Mean age of presentation was 29.51 years.
2. The majority of patients were male. (67.7% male)
3. Majority of patients were from rural background i.e. 73.1% and most common among farmers i.e. 50%.
4. Ingestion of poison was more common (i.e. 82.8%)
5. Commonly used poisons were dimethoate, chloryryphos, monochrotrphos.
6. In our study vomiting was most common symptom followed by salivation/ sweating (71%), shortness of breath (51.6%), blurring of vision (26.95%) and seizures (10.8%).
7. Systolic BP, pulse, SpO2, respiratory rate and biochemical parameters like blood urea, SGOT, Potassium level were significantly associated with poisoning according to POP scale.
8. Increased CPK levels on day 1 were significantly associated with severity of poisoning.
9. CPK levels on day 1 significantly correlates with POP score, the amount of atroplane used Acetylcholinesterase levels on day 1 and duration of hospital stay.
10. Increased CPK levels on day 1 were associated with higher mortality and morbidity in terms of complications, need of mechanical ventilation and intermediate syndrome and hence can be used as a prognostic marker.
11. Early determination of CPK levels can serve as the prognostic marker in patients of acute Organophosphorus poisoning so necessary steps can be taken.
in appropriate time.

To conclude Organophosphorus Poisoning is one of the most common poisoning among rural areas of North West Rajasthan predominantly in young population with male predominance. Elevated Creatine Kinase is commonly seen in Organophosphorus Poisoning. Increased serum CPK is commonly seen in OP poisoning and correlate with disease severity and can be used as a prognostic marker of outcome in Organophosphorus poisonings. Early estimation of CPK should be routine as this is a good prognostic marker.

Study of Clinical Profile of Organophosphate Compound Poisoning with Special Reference to Electrocardiographic Changes and Electrolyte Derangements

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Introduction: Organophosphorus compound poisoning is a global problem and is most common medico toxic emergency in India and is associated with high rate of mortality, if not diagnosed early and treated adequately. We studied clinical profile, electrocardiographic changes and electrolyte derangements in patients with organophosphorus compound poisoning.

Materials: We studied randomly selected 100 patients of organophosphorus compound poisoning admitted within 12 hours of consumption. Clinical profile, electrocardiographic changes and electrolyte derangements were analyzed on outcome basis.

Observations: In this study, most vulnerable age group was between 12-30 years (46%), male to female ratio is 3:1.7:1. Majority of patients belongs to rural areas (54%) and (66%) belongs to low socioeconomics status. In all the patients mode of exposure was suicidal and route of intake was oral, commonest symptom found was vomiting (46%) and commonest sign was smell of poison (96%). Type of organophosphate was identified in (60%) and unidentified in (40%) patient. Monocrotrophos (30%) was most common compound among identified group. Majority of patients (52%) were hospitalized within 2-4 hrs of organophosphate compound consumption and total hospital stay was 6-10 days in (61%) patients. Electrocardiographic changes were detected in (54%) patients, most common electrocardiographic change was sinus tachycardia (29%), QTc prolongation (28%), ST-T wave changes (22%), sinus bradycardia (21%), conduction defects (4%) and tachyarrhythmia (VT) (3%). Mortality rate in present study is (16%) among patients with QTc interval > in 20%; and was statistically significant, when compared with mortality rate of (2.78%) in those with normal QTc interval (x2=33.41, P<0.001). Serum electrolyte derangements (Na+, K+, Ca++) were found statistically insignificant in present study.

Conclusion: Analysis of electrocardiographic changes will be useful parameter in assessing prognosis of organophosphate compound poisoning patients. ECG changes like QTc prolongation are potentially dangerous and indicate the necessity of continuous cardiac monitoring. Serum electrolytes derangements are not helpful in assessing prognosis in organophosphorus compound poisoning patients.

Keywords: Clinical Profile; Electrocardiography; Serum Electrolytes.

Predicting the Need for Ventilator Support in Organophosphorus Compound Poisoning

Aamnamiyara, Vijay G Somannavar Jawaharlal Nehru Medical College, KLE University, Nehrungar, Belgaum, Karnataka

Introduction: Organophosphorus compound poisoning is an important indication for emergency admission in India. The leading cause of death is respiratory failure. Most cases require ICU care and ventilator support. But this cannot be applied to developing countries like India wherein ICU facilities are limited. Hence the intend of this study is to identify the clinical and biochemical factors which help in predicting the need for ventilator support and thus helping to reduce mortality in organophosphorus poisoning.

Materials and Methods: A cross sectional study of 120 patients admitted with organophosphorus poisoning in KLES Dr Prabhakar Kore Hospital and Medical Research Centre, Belgaum between May 2016 to August 2017. Clinical examination was done using POP scale (Peradeniya organophosphorus poisoning scale), GCS scale and serum cholinesterase levels were measured. The need for ventilator support was predicted using these parameters. Patients were followed up on day 2 (after 48 hours) and day 4 to assess the accuracy of these parameters.

Results: The study population mainly included young people, 75% patients in 15 to 35 year age group, 60% were males. 74% patients who consumed these compounds required ventilator support. 100% of the patients presented with pin-point pupils, fasciculation score > 4, respiratory rate >20, GCS score < 7 required ventilator support. The GCS score, heart rate, serum cholinesterase levels were higher in the nonventilated group.

Conclusion: This study highlights the usefulness of few clinical indices like GCS, APACHE II, PMR and Poisoning severity scoring systems for predicting severity at an early stage followed by prompt treatment.

Comparative Study of Poisoning Severity Score, Apache 2, Glasgow Coma Scale in Predicting Severity and Clinical Outcome in Acute Organophosphorus Poisoning

Ramshetty Sandeep, Keshava HK, V Channaraya KIMS Hospital and Research Centre, Bangalore, Karnataka

Introduction: To assess the utility of POP, APACHE 2 and GCS scoring systems in predicting severity and clinical outcomes in OP poisoning. To compare POP, APACHE 2 and GCS scoring systems in predicting severity and clinical outcomes in OP poisoning.

Methods: Patients of age above 18 years of either sex, presenting with organophosphorus or carbamate poisoning admitted to medicine department or ICU will be assessed. Demographic data and prehospitalisation period data will be recorded in all study subjects. Clinical data including laboratory data PSS, APACHE 2 and GCS scores are assessed at the time of admission and subsequently. Patient will be reviewed daily, till discharge or death.

Results: The Glasgow coma scale (GCS) scores, acute physiology and chronic health evaluation II (APACHE II) scores, predicted mortality rate (PMR) and Poisoning severity score (PSS) were estimated within 24 h of admission. Significant correlation (P < 0.05) between PSS and GCS and APACHE II and PMR scores were observed with the PSS scores predicting mortality significantly (P < 0.001). The mortality rate was 10.0% in a total of 30 patients. Suicidal poisoning was observed to be the major cause.

Conclusion: This study highlights the usefulness of few clinical indices like GCS, APACHE II, PMR and Poisoning severity scoring systems for predicting severity at an early stage followed by prompt treatment.

Prevalence of ACOS Among Elderly Reporting to Emergency of a Tertiary Hospital in South India

Kandapu Sarath Kumar, Jacob Mathew V, Kingsly Robert GV Bangalore Baptist Hospital, Hebbal, Bangalore, Karnataka

Introduction: Asthma COPD overlap syndrome (ACOS) is characterized by persistent airflow limitation that shares features of both Asthma and COPD. Identification of patients with ACOS in emergency is clinically important because these patients have accelerated decline in lung function, poor response to bronchodilators. Early identification of these patients will enable early initiation of corticosteroid therapy thereby reducing emergency room visits.

Aim: To study the epidemiology of ACOS in elderly age group (>60 years)
presenting with obstructive airway disease to a tertiary care hospital in Bangalore.

**Methods:** This single centre observational study was performed in Bangalore Baptist hospital which is a tertiary care centre and NABH accredited institution. All the elderly patients (> 60years) who presented to emergency department with symptoms of obstructive pulmonary disease were evaluated using GINA/GOLD combined algorithm for diagnosis of Asthma COPD overlap syndrome (ACOS). Patients were grouped into Asthma, COPD and ACOS.

**Observations:** In our study of 311 patients with obstructive pulmonary disease, numbers of patients with Asthma were 99 (31%), the numbers of patients with COPD were 128 (41%) and numbers of patients with ACOS were 84 (27%). In ACOS cohort female population is higher compared to male population (35.8% vs. 21%). The mean post broncho-dilator reversibility (FEV1) in patients diagnosed with ACOS was 218±16.3 which is in accordance with GINA/GOLD definition of ACOS. Patients identified as having ACOS were of higher mean age and more severe exacerbations when compared to Asthma or COPD group. History of Atopy is seen in 92% of patients diagnosed with ACOS. Smoking as a risk factor for ACOS is well documented in literature. In our study we found only 19% of patients with ACOS have history of smoking. We presume this disparity is because of high female population in ACOS group.

**Conclusion:** Prevalence of Asthma COPD overlap syndrome is 27% and patients who are diagnosed to have ACOS were sicker and have severe exacerbations when compared to Asthma or COPD alone. Our study showed the importance of past history and symptom pattern in accurate classification of obstructive pulmonary disease. However, there is a need for multi centred study to identify the true burden of ACOS in community in order to formulate a standard protocol for management of these patients.

**Effect of Educational Training and Practical Demonstration on Metered Dose Inhaler Use Technique**

**Tom Jose Kakkanattu, Manish Soneja, Neerajnischal, Siddhart Jain, Umang Arora, Soham Banerjee**

**All India Institute of Medical Sciences, New Delhi**

**Introduction:** Incorrect use of Metered dose inhalers (MDI) is a significant barrier in improving the quality of medical care given to most patients with chronic respiratory diseases. This study was carried out in a busy medical OPD to analyze the issues pertinent to incorrect MDI use and assess the impact of a quality improvement initiative involving practical demonstration of correct technique using a standardized checklist.

**Materials:** This was an interventional pre and post-test study conducted in a busy medical OPD among COPD or asthma patients already on MDI. A baseline assessment of correctness of MDI use technique was done based on GINA(2011) instructions, following which a practical demonstration of correct technique was done. These patients were followed up after one month and their technique was reassessed.

**Results:** Total 56 patients completed the study. The mean score of MDI technique knowledge was 3.5 ±1.5, which increased to 6.7 ±1.2 after intervention (p<0.001). 27 patients had prior educational training regarding MDI use and only 22 (39.3%) patients were using spacers.

**Conclusion:** Practical demonstration of correct MDI use technique using a standardized checklist reduces errors in MDI use and thus helps in quality improvement of patient care.

**Diagnostic Yield of Fibre-Optic Bronchoscopy in Sputum Scarce Patients Presenting with Fever and Miliary Shadowing**

**Vanishri Ganakumar, Rita Sood, Anant Mohan, Urvashi B Singh, AshuSeithBhalha, Deepali Jain**

**All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029**

**Background:** Miliary tuberculosisremains an elusive diagnosis to the clinician, owing to non-specific nature of clinical and radiological findings. The primary objective of this study was to study the diagnostic utility of fibreoptic bronchoscopy, including the use of BAL GeneXpert patients presenting with fever and miliary shadowing on chest imaging.

**Methodology:** We conducted a prospective observational study at a tertiary care centre in New Delhi over 20 months. Thirty two treatment naive patients with fever and miliary shadowing on chest X ray/ HRCT chest with non-productive cough were recruited into the study. They underwent a detailed clinical and relevant investigative workup. Fibreoptic bronchoscopy and related procedures likebroncho-alveolar lavage (BAL), transbronchial lung biopsy (TBLB), endobronchial lung biopsy (EBLB) and transbronchial needle aspiration (TBNA) were done as clinically appropriate in 28 patients, followed by a three month follow up. The diagnostic yield of various bronchoscopic procedures towards achieving a definitive diagnosis was analysed.

**Results:** Fibreoptic bronchoscopy yielded a definitive diagnosis in 46.4% of patients, including TB (n=9) and non-TB diagnoses (Malignancy: 3, Anthracosis:1). The overall diagnostic yield of BAL was 37%, with BAL AFB smear, GeneXpert and culture positivity (MGIT 960)in 9.1%, 27.2% and 22.7% respectively in miliary TB patients, and positive malignant cytopathology in one patient. The yield of TBLB was 28.6% (granulomata in 27.7% of miliary TB associated anthracosis in one patient). EBLB and TBNA enabled diagnosis of lung malignancies in three patients. The final diagnosis after follow up was TB (n=26), lung malignancy (n=3), anthracosis (n=1), silicosis (n=1) and respiratory bronchiolitis (n=1). Choroidal tubercles were seen in as many as 46.2% of miliary TB patients. Post procedural pneumothorax occurred in one patient which was managed appropriately and resolved in 48-72 hours.

**Conclusion:** Miliary mottling on chest imaging may occur due to many causes other than TB. Bronchoscopy and bronchoscopic procedures play an important diagnostic role in the evaluation of patients with miliary mottling on chest imaging.

**Study of Glucose Disposition Index in Subjects of Obstructive Sleep Apnea Syndrome**

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**VMMC and Safdarjung Hospital, New Delhi**

**Introduction:** Obstructive sleep apnea syndrome (OSAS) is an established risk factor for diabetes mellitus. Prevalence of OSAS in Indian males and females are 2.4 to 7.5% and 1 to 2.1% respectively. Prevalence of type 2 diabetes mellitus is 30.1% in OSAS patients. Hypoxia, oxidative stress & neurohumoral activation are responsible for insulin resistance and beta cell dysfunction in OSAS patients. Glucose disposition index (GDI) is a surrogate marker of these two factors. So GDI may be a useful tool for predicting overt diabetes beyond fasting blood glucose and post prandial blood glucose in OSAS patients.

**Materials:** 50 cases ofOSAS patients, diagnosed by polysomnography (Apnea hypopnea index, AHI ≥5) were compared with 30 controls those who were low risk group as per modified berlin questionnaire. Different parameter of glycemic controls like fasting glucose, fasting insulin, 30 min glucose and insulin level after 75 gm oral glucose intake, and GDI (∆Insulin 0-30 / ∆Glucose 0-30 / Σ/Fasting insulin), were measured and compared between cases and controls and also compared among mild, moderate and severe grade of OSAS patients.

**Observation:** Mean age of cases and controls were 50.86±10.49 and 49.6±10.98 years respectively, males were in majority. Mean values of GDI of controls, mild, moderate, and severe OSAS were 0.04,0.03, 0.02, and 0.01 respectively, p value <0.05. Mean values of fasting blood glucose, fasting insulin level, 30 minute blood glucose and 30 minute insulin level were significantly higher among cases than controls, p value <0.05. But after adjusting confounding factors, only GDI, 30 minute insulin and 30 minute blood glucose were significantly associated with AHI, p value <0.05.

**Conclusions:** GDI appears to be a better
way to access beta cell function using an oral glucose tolerance test and could be used to identify subjects with poor beta cell function even with normal plasma glucose level in OSAS patients.

Rheumatology

Association of Antiphospholipid Antibody Syndrome and Splanchnic Vein Thrombosis

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Army Hospital (Research and Referral) Dhaula Kuan, New Delhi-110010

Aim: To study association of Anti phospholipid antibody syndrome (APS) and splanchnic vein thrombosis

Methods: In this observational study, the patients with splanchnic venous thrombosis [portal vein thrombosis (PVT), splenic vein thrombosis (SVT), mesenteric vein thrombosis (MVT) and hepatic vein thrombosis (HVT)] were included. Risk factors and clinical symptoms were assessed. As a part of thrombophilia work up APLA work up was done which included lupus anticoagulant (LAC), anti cardiolipin antibodies (ACA) and anti beta 2 glycoprotein 1 (Anti B2 GP1). The revised classification criteria for diagnosis of APS was used. Its statistical association was tested by chi square test.

Results: Out of 70 patients (57 male and 13 female) of splanchnic vein thrombosis, We found 60% cases of BCS, 10.5% cases of PVT and 4.8% cases of MVT were associated with APS and p value is <0.004. APLA syndrome is the second most common acquired cause of PVT in our study and it constitutes 10.5% of cases.

<table>
<thead>
<tr>
<th>Total Cases</th>
<th>No of APS cases</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVT (BCS)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>PVT</td>
<td>38</td>
<td>4</td>
</tr>
<tr>
<td>MVT</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>SVT</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Conclusion: APS constitute significant cause of splanchnic vein thrombosis. Its early diagnosis is important in the management and prevention of further complications.

Nail Fold Capillaroscopy Changes in Systemic Sclerosis and Other Autoimmune Disorders

Sambitsundaray, Sivasami Kartik, Siddhartha Mishra
Armed Forces Medical College, Pune, Maharashtra

Introduction:
1. Systemic sclerosis and related autoimmune diseases are characterised by microvascular involvement which is an indicator of extent and duration of disease. Abnormal microangiopathy of nail fold is often seen in Systemic Sclerosis and related connective tissue diseases such as Dermatomyositis (DM), Mixed connective tissue disease (MCTD) etc.

Several techniques have been used for assessment of nail fold changes including viewing by
- Magnifying glass,
- Ophthalmoscopy,
- Dermatoscopy and
- Wide-field capillary microscopy, have been applied before capillaroscopy.

Nail fold capillaroscopy (NFC) is a technique which uses a lens that allows analysis of the capillary morphology and microcirculation of nail fold. Nail fold capillaroscopy is a simple, non invasive, cost effective and direct tool for observing the microvasculature. However its rarely used because of lack of awareness and lack of available literature and experience in India.

Objectives:
a. To describe nail fold capillaroscopy changes in patients of Systemic sclerosis and other Autoimmune conditions with Raynaud’s Phenomenon.
b. To compare the nail fold capillaroscopy findings of these subjects with healthy controls.
c. To compare the nail fold capillaroscopy findings in Systemic sclerosis and other Autoimmune (Connective tissue disorders) conditions.

Study design: Descriptive observational study

Study population:
- Cases: All patients of systemic sclerosis or other autoimmune conditions with history of Raynaud’s phenomena presenting to a tertiary care hospital.

Inclusion criteria:
1. All adult cases with history of Raynauds phenomenon and having underlying connective tissue disorders/autoimmune diseases like:
   a. Systemic Sclerosis
   b. Mixed connective tissue disorders
   c. Undifferentiated connective tissue disorders
   d. Dermatomyositis

- Controls: Healthy individuals with no evidence of autoimmune or connective tissue disorders or Raynaud’s phenomenon.

Methodology
- All consecutive patients of systemic sclerosis or other autoimmune disorders satisfying the inclusion and criteria presenting to Rheumatology OPD over 1 year were taken as cases.
- An equal number of healthy controls were taken as given above.
- Written and informed consent was taken. (Appendix A)
- The patients underwent a capillaroscopy using a nail fold capillaroscopy instrument
- Initial history / perusal of old medical documents and a quick general and systemic examination was done.
- Data was collected and filled in predetermined proforma.

Observations
- Our study population included 31 patients with Raynaud phenomenon who were detected to have an underlying connective tissue disorder as follows 16 patients (51% of study population) of systemic sclerosis which had diffuse systemic sclerosis and 10 had limited cutaneous variant; there were 5 patients with SLE (16.1%), 5 with MCTD (Segovia Alarcon criteria used), 4 patient had dermatomyositis and 1 patient of UCTD.
- Loop Length: In our study the mean capillary loop length in control population was 282 µm with maximum and minimum being 320 and 258µm respectively. The capillary length was least for limited cutaneous systemic sclerosis patient with significant capillary loss.
- Loop width: Enlarged capillaries ie>20 µm were noted in most patients in the study group. Patients with limited cutaneous SSc and diffuse cutaneous SSc consistently showed widened efferent and afferent limbs. Mega capillaries ie> 50 µm were noted in 7 patients 6 of them being systemic sclerosis (1 Diffuse SSc...
and 5 Limited SSc patients; 1 patient of SLE and 1 of SLE systemic sclerosis overlap syndrome had giant capillaries.

- Capillary Density: The nailfold capillary density was significantly reduced in all disease groups compared with controls and was the most reduced in SSc. Capillary density was also significantly decreased in all cases of MCTD and most cases of dermatomyositis

- Tortuosity: Tortuosity was noted in nearly all the study cases; all the cases of Diffuse SSc and 80% of cases of limited SSc had evidence of tortuosity with presence of tortuous vessels where the normal inverted U pattern was lost.

- Neoangiogenesis: Neoangiogenesis as evidenced by bushy and ramified capillaries was seen predominantly in patients with diffuse SSc and MCTD

- Vascular Deletion Score: Capillary loss was a central finding in patients of SSc, MCTD (overlapping features of SSc, SLE and myositis), whereas capillary loss is not a typical finding in SLE or UCTD.

- Nailfold Capillary findings and systemic organ involvement: Pulmonary involvement was the most common systemic organ involvement noted in our study population.

Conclusions

- Systemic sclerosis both limited cutaneous variant and diffuse variants contribute to the bulk of the causes of secondary Raynaud phenomenon. 51% of our study population consisted of patients with systemic sclerosis.

- Nailfold capillaroscopy findings are quite characteristic and can help in classifying patients into various connective tissue disorders based on these findings.

- The most consistent nail fold capillaroscopy finding in patients with systemic sclerosis was the presence of dilated capillary loops (both afferent and efferent) and capillary loss.

Assessment of Effect of Disease Activity on Neutrophil: Lymphocyte (N:L) Ratio in Rheumatoid Arthritis

Harpreet Singh, Ruchi, N. Marwah, Jasminnder Singh, Saroj Bala, Rekha Mathur
Pt. BDS PGIMS, Rohtak, Haryana

Introduction: Rheumatoid arthritis (RA) management requires regular disease monitoring by various disease activity scores. Various new disease activity scores / markers including hematological are being studied. The aim of the present study was to study the effect of disease activity on neutrophil:lymphocyte (N:L) ratio in Rheumatoid Arthritis.

Materials: Total of 100 patients of Rheumatoid Arthritis (RA) as per ACR criteria (1987) were selected as subjects. All subjects were assessed for disease activity (using DAS28 and CDAI scores) and by complete hemogram for neutrophil to lymphocyte ratio. Both the score and ratio were reassessed at 3 month again. Appropriate statistical analysis was done to compare Neutrophil to lymphocyte ratio with the disease activity parameters at baseline (M0) and at 3rd month (M3).

Observations: Mean age of the study group was 45.6±11.75 years. In the study group there were 23 males and 77 females (M:F ratio = 1:3.34). Mean N:L ratio at baseline was 2.85±0.67 and it declined significantly to 2.47±0.54 at M3 (p value<0.001). Mean DAS28 Score was 6.74 ± 2.82 at baseline and 2.96 ± 0.65 at M3. Mean CDAI score was 39.88 ± 11.57 at baseline and 6.27 ± 3.97 at M3. The decrease in both disease activity scores was
**Arthritis in Sarcoidosis - A Multi-Centre Study**

Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow, Uttar Pradesh

**Background:** 10-15% of sarcoidosis patients are associated with arthropathy. Chronic arthritis is less common around 1%. Data on articular manifestations of the disease from India is sparse.

**Objective:** To study the clinical manifestations of sarcoid arthritis patients from India.

**Methods:** Case records of patients presenting to ten rheumatology centres from 2005 to 2017 with sarcoidosis were retrospectively reviewed. Joint involvement was assessed clinically, classified as acute or chronic depending on duration of symptoms lesser or greater than 6 months respectively.

**Results:** A total of 123 patients with sarcoid arthritis were reviewed.

Table 1 sums up the mode of presentation.

**Table 1 : Demographic and Clinical Profile of patients with sarcoid arthritis**

<table>
<thead>
<tr>
<th>n=123</th>
<th>Acute (95)</th>
<th>Chronic (28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age* ± S.D</td>
<td>41 ± 12.9</td>
<td>44 ± 11.3</td>
</tr>
<tr>
<td>Male : Female</td>
<td>0.9:1</td>
<td>1.5:1</td>
</tr>
</tbody>
</table>
| Duration of symptoms* (Years) | 1.12 ** | 2.05 (0.16 to 6.97) *
| Lovgren | 45 | 13 |
| Wrist* | 28 | 18 |
|PIP/MCP† | 13/12 | 10/13 |
| MTP† | 8 | 5 |
| Uveitis† | 6 | 6 |
| Peripherai adenopathy† | 15 | 12 |
| Plaque‡ | 5 | 6 |

*Years **(Median + IQR) p < 0.05

58 patients were classified as Lovgren syndrome. Pattern of joint involvement revealed ankle as most commonly affected in both the groups, CDAI in group I was 41.68 ±11.14; 24.36±8.13; 12.34±5.73; 6.42±4.4 and in group II 37.84±11.12; 24.54±9.4; 16.38±6.81; 9.62±5.6 at baseline, 4, 8, 12 weeks respectively, CDAI in group I was 37.84±11.12; 24.54±9.4; 16.38±6.81; 9.62±5.6 at baseline, 4, 8, 12 weeks respectively. CDAI in group I was 16.38±6.81; 9.62±6.1 at baseline, 4, 8, 12 weeks respectively. CDAI in group II was 37.84±11.12; 24.54±9.4; 16.38±6.81; 9.62±5.6 at baseline, 4, 8, 12 weeks respectively. CDAI in group I was 37.84±11.12; 24.54±9.4; 16.38±6.81; 9.62±5.6 at baseline, 4, 8, 12 weeks respectively.

**Conclusion:** Spironolactone as adjuvant therapy to DMARDs is effective.
another six months on Tacrolimus therapy (a total of 12 months) and all five maintained their renal response.

**Table 1:**

<table>
<thead>
<tr>
<th>Duration of persistent proteinuria despite immunosuppression</th>
<th>Daily Tacrolimus dose</th>
<th>Response at 3 months</th>
<th>Response at 6 months</th>
<th>Change in renal SLEDAI at 3 months</th>
<th>Change in renal SLEDAI at 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>3 mg</td>
<td>CR</td>
<td>CR</td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>15</td>
<td>2-3 mg</td>
<td>CR</td>
<td>CR</td>
<td>-12</td>
<td>-12</td>
</tr>
<tr>
<td>12</td>
<td>3 mg</td>
<td>NR</td>
<td>CR</td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>5</td>
<td>3 mg</td>
<td>PR</td>
<td>PR</td>
<td>-4</td>
<td>-8</td>
</tr>
<tr>
<td>18</td>
<td>3 mg</td>
<td>NR</td>
<td>NR</td>
<td>-4</td>
<td>-8</td>
</tr>
<tr>
<td>7</td>
<td>2-3 mg</td>
<td>CR</td>
<td>CR</td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>13</td>
<td>3 mg</td>
<td>PR</td>
<td>PR</td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>21</td>
<td>3 mg</td>
<td>NR</td>
<td>PR</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>3 mg</td>
<td>PR</td>
<td>PR</td>
<td>-4</td>
<td>-4</td>
</tr>
<tr>
<td>8</td>
<td>2 mg</td>
<td>PR</td>
<td>PR</td>
<td>-4</td>
<td>0</td>
</tr>
</tbody>
</table>

Tadalafil Reduces Skin Fibrosis and Profibrotic Genes Expression in Patients with Systemic Sclerosis

**Vikas Agarwal, Sakir Ahmed, Mohit K Rai, Durga P Misra**

**SGPGIMS, Lucknow, Uttar Pradesh**

**Background:** Currently, drugs that modify skin fibrosis in Systemic Sclerosis (SSc) have efficacy in certain subgroups of patients only. Phosphodiesterase-5 inhibitors (PDE5i) are known to reduce fibrosis in Peyronie’s disease and renal fibrosis. We studied the efficacy of Tadalafil, a long acting PDE5i, in reducing the skin fibrosis in SSc.

**Methods:** In this prospective open-labeled study, 24 patients meeting ACR 2013 classification criteria for systemic sclerosis were recruited. Twelve received Tadalafil in addition to standard of care whereas the rest were continued on standard of care. Demographic and clinical details including Modified Rodnan Skin Score (mRSS) were recorded at baseline and at 6 months. Paired forearm skin biopsies of 5mm diameter were taken at baseline and at 6 months. Expression of profibrotic genes COMP, THBS1, SIGLEC1, IFI44, TN-C, COL1A1, COL1A2, ACTA2 and CTGF [Abbreviations in Table 2] in skin biopsies were compared to housekeeping gene GAPDH using real time polymerase chain reaction.

**Results:** Baseline characteristics were similar in both the groups. One patient was lost to follow-up in each group. Amongst patients on Tadalafil, median mRSS decreased from 22 to 13 (p = 0.005) whereas median mRSS in the other group had a statistically non-significant increase from 15 to 19 (p=1) at 6 months [Figure 1].

In the Tadalafil group, there was decrease in the expression of COMP, SIGLEC1, CTGF and IFI44 which was statistically significant. In the other group, there was significant increase in the expression of IFI44, THBS1 and TN-C that was absent in the Tadalafil group. Overall change in mRSS (ΔmRSS) correlated with change in SIGLEC1, IFI44, THBS1 and COL1A1 (Spearman; p<0.05).

**Conclusion:** Tadalafil significantly reduced the skin fibrosis in SSc with down-regulation or prevention of upregulation (or both) in 6 of the 9 pro-fibrotic genes tested.

Skewing of T Helper Axis towards Th1 and Th17 Cells in Sarcoid Arthritis Compared to Non-Articular Sarcoidosis

**Durga Prasanna Misra, Avinash Jain, Harshit Singh, Saurabh Chaturvedi, Alok Nath, Vikas Agarwal**

**Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow, Uttar Pradesh**

**Introduction:** Sarcoidosis is a disease with diverse manifestations and an unclear pathogenesis. An insight into the T cell signature may help us understand the disease better. The objective of the study was to assess T cell subsets in sarcoidosis patients with or without articular involvement.

**Methods:** Diagnosis of sarcoidosis was based on non-caseating granulomas negative for acid fast bacilli, fungal elements or foreign bodies in lymph nodes, liver, skin or exocrine glands and/or oligo-or polyarthritis with hilar adenopathy, erythema nodosum, uveitis or facial palsy with negative Mantoux test. All patients were treatment naive. They were divided into two groups – Group A comprised of patients with articular involvement and Group B had no articular involvement. T cell immunophenotype was done in peripheral blood by flow cytometry with appropriate gating using CD4, CD8, IFN gamma, IL-2, IL-17, and FOXP3 for CD4, CD8, Th1, Th2, Th17 and Treg cells respectively. A record of the clinical details including the management of these patients was made.

**Results:** 23 patients with sarcoid arthritis were compared with 12 patients of sarcoidosis without articular involvement [8 with pulmonary involvement, 2 renal, one gastrointestinal and one neurosarcoidosis] with mean age 41.2 ± 10.5 years and 39 ± 9.23 years respectively. Male: Female ratio was 9:14 and 3:1 in group A and B respectively. Mean total leucocyte count was comparable in both groups (971.6 ± 2838.6 cells/mm² in group A vs 7852 ± 2049.1cells/mm² in group A, p = 0.33). Percentage of Th1, Th2, CD8+ T cells were significantly high in sarcoid arthritis whereas Treg cells were higher in the non-articular [Table 1]. Th17 cells were lower in group B but did not reach statistical significance [p 0.11]. Th1/Th2 were low and Th1/Treg and Th17/Treg ratio were high in sarcoid arthritis [p<0.05].

**Table 1:**

<table>
<thead>
<tr>
<th>T cell subtype in % (Mean ± SD)</th>
<th>Sarcoid Arthritis, n = 23 (Group A)</th>
<th>Non articular Sarcoidosis, n = 12 (Group B)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Th1</td>
<td>51 ± 4.7</td>
<td>43 ± 4 ± 4.5</td>
<td>0.0001</td>
</tr>
<tr>
<td>Th2</td>
<td>42 ± 10.2</td>
<td>3 ± 1.8</td>
<td>0.0001</td>
</tr>
<tr>
<td>Th17</td>
<td>3 ± 1.1</td>
<td>2 ± 0.93</td>
<td>0.18</td>
</tr>
<tr>
<td>Treg</td>
<td>4 ± 5.3</td>
<td>27 ± 6.8</td>
<td>0.0001</td>
</tr>
<tr>
<td>CD8</td>
<td>31.1 ± 20.2</td>
<td>8.3 ± 4.0</td>
<td>0.0005</td>
</tr>
<tr>
<td>Th1/Th2</td>
<td>2 ± 4.4</td>
<td>17 ± 1.5</td>
<td>0.002</td>
</tr>
<tr>
<td>Th1/Th17</td>
<td>21 ± 18.0</td>
<td>21.2 ± 14.0</td>
<td>0.98</td>
</tr>
<tr>
<td>Th1/Treg</td>
<td>17 ± 7.0</td>
<td>1.8 ± 0.8</td>
<td>0.0003</td>
</tr>
<tr>
<td>Th17/Treg</td>
<td>± 0.6</td>
<td>± 0.08</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

**Conclusion:** Thelper cell axis was skewed towards Th1 and Th17 in sarcoid arthritis when compared to patients without articular involvement. Thus this difference in T cell subsets may explain to an extent the diversity in the disease manifestations and may have implications on management. It will be worthwhile to study the T cell repertoire in other tissue or body fluids.

**Fig. 1:** MRSS in patients not receiving and receiving Tadalafil. Wilcoxon signed rank ([NS-Not Significant])
Assessment of Traditional Risk Factors and Subclinical Atherosclerosis in Patients with Rheumatoid Arthritis and Systemic Lupus Erythematosus

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Introduction: Cardiovascular diseases have become the leading cause of mortality in patients with RA and SLE. Accelerated atherosclerosis is one of the most important mechanisms implicated in increased CV mortality. Carotid Intima Thickness (CIMT) and Flow Mediated Dilation (FMD) of brachial artery are well established markers of subclinical atherosclerosis in patients with RA and to a less extend in SLE patients. The role of Coronary artery calcium score (CACS) is still being worked, which is class IIa recommendation in asymptomatic patients.

Material: Twenty five patients diagnosed with RA and twenty patients of SLE were evaluated for the presence of traditional risk factors for cardiovascular diseases. Endothelial dysfunction, was assessed by FMD of brachial artery, and CIMT was assessed by USG technique. CACS was calculated using MDCT.

Observations: Dyslipidemia and obesity were most prevalent among the cardiovascular risk factors. Low HDL was found in 84% of RA patients and in 90% patients with SLE. Obesity was found in 76% RA patients and in 50% SLE patients. The mean FMD (%) in patients with RA was 5.88 ± 2.1%, with FMD<6% being seen in 15/25 (60%) RA patients. On the other hand, in patients with SLE mean FMD was 6.22 ± 1.7%, with abnormal FMD (<6%) in 10/20 (50%) SLE patients. The mean CIMT (mm) in patients with RA and SLE was 0.65 ± 0.09 mm and 0.64 ± 0.08 mm respectively. Abnormal CIMT was found in 18/25 (72%) RA patients and 18/20 (90%) SLE patients, (considering upper limit of normal CIMT as 0.57 mm). MDCT detected calcium in 5/25 (20%) RA patients and 3/20 (15%) SLE patients all being in low risk category. There was no patient with CACS >10.

Conclusions: CIMT and FMD seem to be promising investigation for the assessment of subclinical atherosclerosis in young to middle aged RA patients with a low CV risk. The debate on role of CACS in risk stratification of RA and SLE patients in particular and those with low to intermediate risk in general continues with various inconclusive treatment guidelines so far.

Study of Association of Intestinal Prevotella in Early Rheumatoid Arthritis

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Introduction: Despite being highly prevalent and highly studied autoimmune disease, the etiology for the autoimmunity in Rheumatoid arthritis is not known. One of the recent advances being the role of gut microbiota. The primary objective of this study is to explore the association of Prevotellacopri species in the gut microbiota in untreated Rheumatoid arthritis patients.

Material and Methods: Stool samples were collected from controls and new-onset, untreated Rheumatoid arthritis patients in reduced transport fluid (RTF) and were subjected to anaerobic culture in Kanamycin-Vancomycin blood agar to identify Prevotella species based on colony morphology and biochemical tests. Inoculated plates were incubated anaerobically by gas pak method for 72 hours. Also, broadband PCR was run on stool samples collected in RTF for detection of 16S RNA of Prevotella species and the samples which test positive were further subjected to specific PCR with another set of internal primers to detect 16S RNA of Prevotellacopri. HiPurA™ Stool DNA Purification Kit (#MB544 HIMEDIA) was used for extraction of bacterial genome. Separation of genomic DNA was done using agarose gel electrophoresis. 2 sets of primers were used among which one is universal primer for bacterial species i.e., 16S rDNA to validate the sample or DNA for bacterial genomic study. Another primer mix specific to Prevotellacopri was procured from Helini Biosciences along with positive control for Prevotellacopri to identify samples positive for Prevotellacopri.

Observations: Stool samples were collected from 30 cases and 25 healthy controls and were subjected to PCR and culture. Anaerobic culture showed no growth of Prevotella. PCR studies showed 19 (63%) cases being positive for Prevotellacopri nucleic acid whereas only 7 (28%) samples were positive in controls.

Conclusion: Intestinal Prevotellacopri was found in significant number of cases of Rheumatoid arthritis compared to controls (p value: <0.001) indicating the alteration in gut microbiota in cases, which could be the reason for priming of autoimmunity in Rheumatoid arthritis. Larger studies are needed to further identify and quantify the alterations in entire gut microbial flora to find the definite role of Prevotellacopri in the pathogenesis of Rheumatoid arthritis.
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22. Can Musculoskeletal Complications in Diabetics be Used as Prognostic Indicators?
Sharanya Vasu
Vidyabhai Institute of Medical Sciences and Research Center, Bangalore, Karnataka

23. Comparison of Visceral Adiposity Index (VAI) and Body Mass Index (BMI) in Adults and its Correlation with their Metabolic Risk Profile
Nishmita R
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24. Pituitary Macroadenoma with Panhypopituitarism causing Secondary Adrenal Insufficiency—Very Rare Presentation
Arnab Ghosh
AFMC, Pune, Maharashtra

25. A Study of Thyroid Dysfunction in CKD
Manoj Onkar
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26. Prevalence of Diabetic Retinopathy in Subclinical Hypothyroidism
Vivek Prakash
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27. A Study of Subclinical Hypothyroidism Treated with Alternate Day Fixed Dose Thyroxine Therapy
Mohit Naradi
M. G. M. Medical College & M. Y Hospital, Indore, Madhya Pradesh

28. A Correlation of Pit Recovery Time and Hypoalbuminemia in Type 2 Diabetics
Manish Lalwani
SGRD, Amritsar, Punjab

29. A Gigantic Cause of a Common Symptom; Never Give Up Chasing the Etiology
Kamalesh TN
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30. Rapidly Reversible Myelopathy
Gazal Bakshi
Lady Hardinge Medical College, Delhi

31. A Rare Case of Hypoparathyroidism with Cerebral Calcification
Srikanth AK
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32. Thyrotoxic Periodic Paralysis-A Case Report
Harshith CS
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33. Serum Testosterone in Diabetic Patients: A Case Control Study
Harshith CS
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34. Case of Recurrent Hypoglycemia-Insulinoma
Rajat Chawla
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35. Van Wyk Grumbach Syndrome-A Rare Presentation of Long Standing Hypothyroidism
Samuel Jebavaram D
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36. Assessment of Dyslipidemia in Denovo Diabetic Patients
Manjunath KM
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37. Study of Clinical Profile of Patients with Metabolic Syndrome and their Association with NAFLD
Shreya KS
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38. Waist Circumference and Thyroid Dysfunction
Yogesh Kumar Swami
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39. The Study of Relationship Between Type 2 Diabetes Mellitus and Thyroid Disorders
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40. A Clinical and Biochemical Study of Vitamin D Status among Newly Diagnosed Diabetics
Vinod Nayanagali
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41. A Study of Association of 25-OH Vitamin D with Type 2 Diabetes Mellitus Microvascular Complications
Paladugu Bhaavan
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42. To Study the Impact of Body Adiposity (Lean and Fat Mass Distribution) on Bone Mineral Density in Post-Menopausal Women
Agrata Sharma
UCMS and GTB Hospital, Delhi

43. A Case Report of Turner’s Syndrome with Hypothyroidism
Arshiya Mudin
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44. Quadrepareisis with Reversible Rare Etiology
Jyothsna Pagoti
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45. Partial Empty Sella Syndrome with Pan Hypopituitarism Leading to Pericardial Effusion
Ankur Gupta
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46. A Case of Diffuse Skin Hyper Pigmentation
Harikrishna Bhukya
Dr. Pinnamaneni Siddhartha Institute of Medical Sciences, Vijayawada, Andhra Pradesh

47. Clinical and Etiological Study of Primary Hypothyroidism
Md Sarfaraj
Assam Medical College, Dibrugarh, Assam

48. Glycosylated Hemoglobin and Left Ventricular Diastolic Dysfunction in Patients with Type 2 Diabetes Mellitus
Rakesh M
JJM Medical College, Davangere, Karnataka

49. Study of Association between Sr. Vitamin D, Body Mass Composition & Metabolic Risk Factors in Young Indian Males
Kalyan N
Command Hospital, Central Command, Lucknow, Uttar Pradesh
50. A Study of Quantitative Sensory Testing in Type 2 Diabetes Mellitus Patients for Diabetic Sensory Polyneuropathy
Anurag Shukla
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51. Profile of Adrenal Incidentalomas in a Tertiary Care Hospital
Don David
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52. Case of Hypoglycemia
Sanjay Rawal
Military Hospital, Tibri Cantt, Gurdaspur, Punjab

53. Autoimmunity and Endocrine Dysfunction in Type 1 Diabetes Redefined in Indian Subcontinent
Gokul MS
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54. Post Snake Bite Panhypopituitarism – Delay in Diagnosis or Delayed Presentation?
Don David
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55. Changing Spectrum of Recent Onset Thyrotoxicosis and Trends in Thyroiditis - A Three Year Study
Gokul MS
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56. A Difficult Case of Ectopic Acth Syndrome
Amarnath A
Vydcihe Institute of Medical Sciences and Research Centre, #18, Nallurahalli, Epip Area, Whitefield, Bengaluru 66, Karnataka

57. A Study on Lipid Profiles in Thyroid Disorders with Special Reference to HDL-Cholesterol
Anish Nair
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58. Hoffmann Syndrome: A Rare Case of Hypothyroid Myopathy
Manasa Mudalagiri
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59. Sheehan’s Syndrome Case Report Range Gowda KR
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60. Study of Hypovitaminosis D in Patients with Congestive Cardiac Failure at a Teaching Hospital in North India
Sameer Beg
Era Medical College, Lucknow, Uttar Pradesh

61. Thyroid Profile in Patients with Type 2 Diabetes
Kamalakar Penubothu
Dr. Pinnamaneni Siddhartha Institute of Medical Sciences & Research Foundation, Chinnna Avutupalli, Andhra Pradesh

62. Study of Correlation of Osteoarthritis with Metabolic Syndrome. Does Turmeric have a Beneficial Effect in Osteoarthritis?
Abhijeet Kumar
Eras Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh

63. Myxedema Heart
Akhil Shaik
Alluri Sitarama Raju Academy of Medical Sciences, Eluru 534005, Andhra Pradesh

64. A rare cause of Hypokalemia: Gitelman Syndrome
Raman Madhavan
Coimbatore Medical College and Hospital, Coimbatore, Tamil Nadu

65. Cardiac Tamponade as a First Presentation of Hypothyroidism
Rishi Raman
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66. Sheehan’s Syndrome
Madhvan S
SVCMCH RC Ariyur, Villupuram, Tamil Nadu

67. A Case of Multiple Myeloma Coexisting with Primary Hyperparathyroidism
Subhash Meel
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68. Peripheral Neuropathy and Headache – A Sweet Cause and a Rare Presentation
Nandhini Devi
Coimbatore Medical College and Hospital, Coimbatore, Tamil Nadu

69. Serum Lipids and Associated Factors of Dyslipidemia
Nikhil Chougule
J.N.M.C Medical College, Belagavi, Karnataka

70. A Rare Presentation of Pituitary Aplexy
Abhilash Mareguddi
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71. Study of Spectrum of Thyroid Dysfunction in Subjects Attending Medical Out Patient Department of a Tertiary Care Hospital in Mysuru
Channa Krishnappa K
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72. Diabetic Striopathy
Basil Thambi
Government Medical College, Kottayam, Kerala

73. A Case of Recurrent Hypoglycemia
Abraham George N
Government Medical College, Kottayam, Kerala

74. Evaluation of Vitamin D Levels in Metabolic Syndrome and its Correlation with Glycemic Profile and Cardiovascular Risk Factors
Saurabh Nandwani
Moti Lal Nehru Medical College, Allahabad, Uttar Pradesh

75. Association of Nonalcoholic Fatty Liver Disease and Metabolic Syndrome with Cardiovascular Risk Factors and Atherosclerosis
Saneeprapajati
Motilal Nehru Medical College, Allahabad, Uttar Pradesh

76. Two Interesting Cases: A Curious Case of Chills and the Doctor who Stopped Sweating
Archana M
Pushpagiri Institute of Medical Sciences and Research Centre, Thiruvalla, Kerala

77. An Unusual Case of Cramps: Conn’s Syndrome
Sanal K Thomas
Pushpagiri Institute of Medical Sciences and Research Institute, Kerala

78. A Case of Hyperthyroidism with Pulmonary Hypertension
Anirudh Maheshwari
R.D. Gardi Medical College, Ujjain, Madhya Pradesh

Gastroenterology

1. Correlation of Aspartate Aminotransferases/Platelet Count Ratio Index with Child-Turcotte-Pugh Score and Model for End Stage Liver Disease Score in Liver Cirrhosis
Prinji Jain
Vardhmaan Mahavir Medical College and Safdarjang Hospital, Safdarjang West, Safdarjang Campus, Ansari Nagar East, New Delhi 110029

2. Pellastra-Still Existing Disease!!
Ramya Kodali
Bhagwan Mahaveer Jain Hospital, Millers Road, Bangalore, Karnataka

3. To Study Non Alcoholic Fatty Liver Disease in Type 2 Diabetes Mellitus with Special Reference to Real Time Elastography
Shalaka Shinde
D Y Patil Medical College and General Hospital, Sant Tukaram Nagar, Near YCM Hospital, Pimpri, Pune 411018, Maharashtra

4. Portal and Splenic Venous Diameter Ratio and Gradient a Non –Invasive Tool to Predict Esophageal Varices
Khushboo Gyanchandani
VMMC and Safdarjung Hospital, New Delhi

5. Tyrosine Kinase Induced Acute Pancreatitis with Secondary Diabetes in CML Patients
Prakash Gupta
Military Hospital, Jalandhar, Punjab

6. Don’t Blame Booze for all Cirrhosis in Alcoholics
Arnab Ghosh
AFMC, Pune, Maharashtra
7. Bedside Index for Severity in Acute Pancreatitis (BISAP) and Modified Ct Severity Index (MCTSI) as Predictors of Clinical Outcome in Acute Pancreatitis Sai kiran Kakarla Kurnool Medical College, Kurnool, Andhra Pradesh

8. Upper Gastrointestinal Endoscopic Features in Patients of Splanchic Vein Thrombosis Chilaka Rajesh Army Hospital (Research and Referral), Dhula Kuan, New Delhi 110010

9. Rare Case of Budd-Chiari Syndrome Dinesh Singh Patil Dr. D.Y. Patil Medical College & Hospital, Pimpri, Pune, Maharashtra

10. The Upper GI Endoscopic Findings Karunakar Samal Clinic & Research Centre, Ananta Nagar, Berhampur 760005, Odisha

11. An Interesting Rare Case of Chronic Diarrhea Gaganpreet Grewal Room No. A-24, UG PG Boys Hostel, A Wing, Dr DY Patil Medical College, Sant Tusaram Nagar, Pimpri, Pune 411018, Maharashtra

12. An Interesting Case of Recurrent Ascites Ankit Hissaria Dr. D.Y. Patil Medical College, Pune, Maharashtra

13. Lamotrigine Induced Dress with Pancreatitis: A Case Report Lekkala Rajesh Krishna Institute of Medical Sciences, Secunderabad, Telangana

14. Prevalence of Duodenal Ulcers in Cirrhosis and its Correlation to Etiological Factors and Prognosis Sweta Banka RNT Medical College N Hospital, Udaipur, Rajasthan

15. Empyema Thoracis in a Case of Chronic Pancreatitis Rabindra Jang Rayamajhi AFMC, Pune, Maharashtra

16. Prevalence of Non-Alcoholic Fatty Liver Disease (NAFLD) in Hypothyroidism Annie Kanchan Baa VMMC and Safdarjung Hospital, Near AIIMS Hospital, Ansari Nagar, New Delhi 110029

17. Auto-Immune Hepatitis or Wilson’s Disease-A Clinical Dilemma; A Comparative Study K Divya Sriharsha Vydhi Institute of Medical Sciences and Research Centre, Bangalore, Karnataka

18. Congenital Hepatic Fibrosis - A Case Report Karthik G Bangalore Medical College and Research Institute, Bangalore, Karnataka

19. Thrombosis Progressed to Bleeding Diathesis: A Rare Manifestation of Celiac Disease Krishan Meena SMS Medical College, JLN Marg, Jaipur, Rajasthan

20. Case Report: Intrahepatic Pseudocyst following Acute Pancreatitis Saurabh Gaba Government Medical College and Hospital, Sector 32, Chandigarh

21. A Progressive, Comparative Analysis of Clinical and Biochemical Profile of Male and Female Patients of Alcoholic Cirrhosis in a Tertiary Care Hospital in Rural Bangalore Jasmine Kaur Bhatia MVJ Medical College and Research Hospital, Dandupalya, Hoskote, NH4, Bangalore 562114, Karnataka

22. Case of Eosinophilic Gastroenteritis Basant Kumar Pathak Armed Forces Medical College, Pune, Maharashtra

23. Novel Approaches to the Pharmacological Management of Malignant Bowel Obstruction – A Case Report Rahul Arora Tata Memorial Centre, Tata Memorial Hospital, Ernest Borges Marg, Mumbai 400012, Maharashtra

24. AIP (Autoimmune Pancreatitis) - An Uncommon Case of PUO Vishal Hirapara Kokilaben Dhirubhai Ambani Hospital & Research Institute, Andheri West, Mumbai 400053, Maharashtra

25. Clinical Spectrum of Precipitating Factors of Hepatic Encephalopathy in Cirrhosis of Liver Muralidhar T JJM Medical College, Davangere 577004, Karnataka

26. Case of Portal Vein Thrombosis with Pulmonary Thromboembolism Saurabh Mishra Armed Forces Medical College, Pune-40, Maharashtra

27. Acute Upper Gastro Intestinal Bleed: Characteristics and Outcomes Mustaq Saif Andrabi Health Services Kashmir Division, Pulwama, Jammu & Kashmir

28. Study of Clinical Profile of Patient with Non Alcoholic Fatty Liver Disease with Special Reference to Metabolic Syndrome Meghana Pawar Shyam Shah Medical College and Sanjay Gandhi Medical College, Rewa, Madhya Pradesh

29. Clofazimine Induced Enteropathy and Lymphadenopathy with Secondary Lymphangiectasia in Patient of Multi-drug Resistant Tuberculous Pleurisy Rinkal Kakadiva Government Medical College & New Civil Hospital, Majuraage, Surat, Gujarat

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31. A Rare Sequence of Common Disease-Intra Hepatic Pseudocyst of Pancreas Sabeena Naaz Gandhi Medical College, Padmamao Nagar, Secunderab, Telangana

32. A Rare Combination of Dubin Johnson Syndrome with Autoimmune Hemolytic Anemia and Ichthyosis Trumthuru Karrothu Kerala Institute of Medical Sciences, Trivandrum, Kerala

33. Clinico-Etiological Study of Acute on Chronic Liver Failure from Assam Bedanta Barman Assam Medical College and Hospital, Dibrugarh, Assam

34. A Rare Case of Chronic Liver Disease Kamisetty Viswanath Osmania Medical College, Afzal Gunj, Hyderabad, Telangana

35. Study of Therapeutic Effectiveness of Ulinastatin in Acute Pancreatitis Santosh Kumar Mishra Military Hospital, Allahabad, Uttar Pradesh

36. Etiology of Upper Gastrointestinal Bleeding in Silchar Medical College Hospital, Silchar, Assam Nuzul Moopan Silchar Medical College, Silchar 788014, Assam

37. Concurrent Enteric Fever with Dengue Fever Kripa Chokshi KJ Somaiya Medical College & Research Centre, Mumbai, Maharashtra

38. Clinical Profile and Spectrum of Precipitators of Hepatic Encephalopathy in Alcoholics Liver Cirrhosis Shiddavva Manashetty Bangalore Medical College, Bangalore, Karnataka

39. Platelet Count and Spleen Diameter Ratio for Non Invasive Diagnosis of Oesophageal Varices Ashwinkumar Mankoskar D. Y. Patil Hospital, Kolhapur, Maharashtra

40. Portal Vein Thrombosis Secondary to Primary Polycythemia Vera in a Young Patient Nahush Chafekar Jawaharlal Nehru Medical College, Nehru Nagar, Belagavi 590010, Karnataka

41. A Rare Case Report of Abdominal Tuberculosis Shubha Katta Dr. Pinnamaneni Siddhartha Institute of
42. Non Alcoholic Fatty Liver Disease in Type 2 Diabetes Mellitus and its Association with Fasting Lipid Profile

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43. A Rare Case of Duodenal Carcinoid with Cystic Hepatic Metastasis presenting with Severe Anemia and Heart Failure – Case Report

Anand KN
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44. Non Alcoholic Steatohepatitis-A Rare Presentation

Sindhu Kilaru
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45. Study of Non- Alcoholic Fatty Liver Disease in Metabolic Syndrome

Anusha J Yadav
Ramaiah Medical College, Bangalore, Karnataka

46. Persistent Jaundice in Liver Cirrhosis

Range Gowda KR
ESIC Medical College and PGIMSR, Bangalore, Karnataka

47. Vasculitis as a Presenting Manifestation of Hepatitis B Infection

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48. Duodenal Neuroendocrine Tumour

Abhilash Mareguddi
KLES Dr. Prabhakar Kore Hospital and Research Institute, Belgaum, Karnataka

49. Rare Case of Cystic Fibrosis in Adult

Susan George
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50. Corelation of Transient Elastography and APRI for Non Invasive Assessment of Liver Fibrosis in Chronic Liver Disease

Ayjay Pratap Singh
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51. Evaluation of Transient Elastography and APRI for Non Invasive Assessment of Liver Fibrosis in Chronic Liver Disease

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52. A Rare Case of Auto Immune Pancreatitis, IGG4 Related (AIP)

Thotakura Praneeth Chowdary
Dr. DY Patil Medical College, Santa Tukaram Nagar, Pimpri, Pune 411018, Maharashtra

53. Tuberous Sclerosis-A Rare Case

Srilakshmi Chokka
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54. Rare Coexistence of Autosomal Dominant Neurofibromatosis Type 1 with Autosomal Recessive Sickle Cell Beta Thalassemia

Prabhu Kiran Vanka
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55. A Rare Case of Crouzon Syndrome with Anemia

Varun Manjunath
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56. A Case of Osseogenesis Imperfecta

Goutami Priyadarshani Angajala
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57. Waardenburg Syndrome Associated with Nephrotic Syndrome and Hypothyroidism - A Rare Case Scenario

Ravi Sravya
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58. A Rare Case of Bardet Biedl Syndrome

Ramanan Madhavan
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59. An Interesting Case of Waardenburg Syndrome Associated with Renal Failure

Mohamed Irfan Hasan
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60. An Interesting Case of Waardenburg Syndrome Presenting with Severe Anemia and Heart Failure – Case Report

Rajesh Saha
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61. A Case of Paroxysmal Nocturnal Hemoglobinuria

Vinayaka Missions Medical College and Research Institute, Belgaum, Karnataka

62. A Case Report of Synchronous Primary Malignancy: Papillary Thyroid Carcinoma and Non-Hodgkin's Lymphoma

Shinons T Mohammed Ali
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63. Polycythemia Vera - An Unusual Presentation

Rajesh Saha
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64. A Case of Paroxysmal Nocturnal Hemoglobinuria

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65. Warm Autoimmune Hemolytic Anemia

Sree Devi P
PES Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh

66. A Case of Acute Venous Thromboembolism Due to Isolated Protein 'C' Deficiency-A Rare Case

Srilakshmi Chokka
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67. An Interesting Case of Waardenburg Syndrome

Shweta Deshmukh
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68. A Case of Hemophagocytic Lymphohistiocytosis Complicating Primary Dengue Fever

Clement Jenil Dhas
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69. Study of the Etiological Profile of Nor-mocytic Normochromic Anemia in the Elderly

Shiv Kumar Saini
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70. Extensive Bilateral Deep Vein Thrombosis Due to Isolated Protein 'C' Deficiency-A Rare Case

Krishna Bharadwarj Pegatraj
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71. Anemia Due to Thrombophilia

Shiv Kumar Saini
Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi

72. Nutritional Status of Elderly with Short Duration Febrile Illness

Shiv D. Gokhale
SKKM Hospital, Coimbatore, Tamil Nadu

73. Study of Alcoholism in Elderly - The Etiology and Effects on Health

Srilakshmi Chokka
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74. An Etiologic Profile of Anemia in 400 Geriatric Patients in Allahabad

Santosh Kumar Mishra
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75. A Case of Acute Venous Thromboembolism Due to Thrombophilia

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10. A Case of Acute Venous Thromboembolism due to Thrombophilia
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Sri Venkateswara Medical College, Tirupati, Andhra Pradesh

11. A Case of Acute Venous Thromboembolism due to Thrombophilia
Krishna Bharadwaj Pegatruj
Sri Venkateswara Medical College, Tirupati, Andhra Pradesh

12. What's Wrong with Being Blu? - An Interesting Case of Cyanosis
Akhiha Rao K
Bangalore Medical College and Research Institute, Bangalore, Karnataka

13. Multiple Myeloma Presenting with Severe Hypercalcemia
Manjunath KM
Lalitha Super Specialities Hospital, Gowri Shankar Theater Road, Kothapeta, Guntur, Andhra Pradesh

14. Unusual Presentation of TB
Jacob C Pillai
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15. Rosai–Dorfman Disease: A Rare Clinicopathological Presentation
Sharanya Vasu
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16. A Study of Mean Platelet Volume and its Relationship to Hypertensive Retinopathy in Hypertensive Patients
Karthik G
Bangalore Medical College and Research Institute, Bangalore, Karnataka

17. Significance of Eosinophilia in Hematological Malignancy
Hemraj Meena
VMMC and Safdarjung Hospital, New Delhi

18. Bicytopenia-Evans Syndrome
Yerraguntla Shashidhar
JNM Medical College, Davanagere, Karnataka

19. Clinical and Demographic Profile of Patients with Vitamin B12 Deficiency: An Observational Descriptive Study
Sharanya Vasu
Bangalore Medical College and Research Institute, Bangalore, Karnataka

20. A Rare Case of Rifampicin Induced Immune Thrombocytopenia and Anemia
Amrita Institute of Medical Sciences, Kochi, Kerala

21. Acquired Hemophilia Occurring in the Setting of Positive Lupus Anticoagulant and other Autoantibodies
Sowmya Susheela
KIMS Hospital, Anayara PO, Trivandrum, Kerala

22. A Case of Thrombocytopenia
Debarghya Mukherjee
I.P.G.M.E&R & S.S.K.M. Hospital Kolkata 700020, West Bengal

23. A Rare Case of Multiple Myeloma in Young Adult
Amrita Institute of Medical Sciences, Kochi, Kerala

24. Hemolytic Anemia as a Clinical Presentation of Gastric Malignancy
Sandesh M Raykar
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25. Polycythemia Vera Presenting as Stroke
Uday Prabhakar
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26. A Typical Case of Multiple Myeloma Revealed by Amyloid Cell Tumor (Amyloidoma)
Agrata Sharma
UCMS and GTB Hospital, Delhi

27. When the Picture is Fragmented!
Jabraan Shaikh
St. Marthas Hospital, 5 Nrupathunga Road, Bangalore 560001, Karnataka

28. Non Circrhotic Portal Fibrosis and Essential Thrombocytosis– A Rare Association
Sebastian Marker
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29. Clinical Profile of Aplastic Anemia in Tertiary Care Hospital
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Kasturbh Medical College, Manipal, Karnataka

30. Clinical and Cytological Spectrum of Diseases Presenting as Pancytopenia
Maddela Nishanth
Nizams Institute of Medical Sciences, Hyderabad, Telangana

31. Spectrum and Prevalence of Rare Bleeding Disorders: A Tertiary Care Based Study
Anaghashree US
St. Johns Medical College, Koramangala, Bangalore 560034, Karnataka

32. Solstice Anaemia with Relative Plasma Cytosis
Swapna M
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33. To Study the Effect of Iron Deficiency Anemia on HbA1c in Non Diabetic Patients
Ajeet Singh Niranjan
Sanjay Gandhi Memorial Hospital, Hari Bhushan Nagar, Rewa 486001, Madhya Pradesh

34. Ocular Changes in Patients with Nutritional Anaemia in Rohilkhand Region
Mohan Tiwari
Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh

35. Menorrhagia not Always for Gynaec Referral
Kirti M
Osmania Medical College, Hyderabad, Telangana

36. A Case of Acute Myeloid Leukemia
Surendra Meena
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37. Paroxysmal Cold Hemoglobinuria (PCH) – A Rare Case Presentation
Shreya Sinha
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38. Polycythemia–As an Etiology of Thrombotic Events in Young
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39. Paroxysmal Cold Hemoglobinuria (PCH)–A Rare Case Presentation
Shreya Sinha
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40. Fanconi Anaemia with MDS-RS Type – A Case Report
Nirmol Das
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41. To Study the Effect of Iron Deficiency Anemia on HbA1c in Non Diabetic Patients
Ajeet Singh Niranjan
Sanjay Gandhi Memorial Hospital, Hari Bhushan Nagar, Rewa 486001, Madhya Pradesh

42. Essential Thrombocytosis Presenting as Initial Presentation of Acute Myeloid Leukemia
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43. Polycythemia Vera as Splenic Infarction
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44. Atypical Presentation of Polycythemia Vera on HbA1c in Non Diabetic Patients
Ajeet Singh Niranjan
Sanjay Gandhi Memorial Hospital, Hari Bhushan Nagar, Rewa 486001, Madhya Pradesh

45. Essential Thrombocytosis Presenting as Pericardial Effusion: A Case Report
Anamika Das
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46. A Rare Case of Azaithioprine Induced Pancytopenia: A Serious Complication
Mhasisielie Zumu
Kempagowda Institute of Medical Sciences, BG Nagar, Nagamangala, Mandya District, Karnataka
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57. A Case of Hemophilia Presenting with VSS Institute of Medical Science and Uttam Kumar Soren
55. Case Series of Polycythemia Dr. Pinnamaneni SiMS, Gannavaram, Syam Venkat Kondapalli
53. Poems Syndrome Vaibhav Mathur
50. Rare and Atypical Presentation of Immune Thrombocytopenic Purpura Rohan Kulkarni
49. An Unusual Presentation of Polycythemia Vera Mitul Rudach
48. Polycythemia Vera Presenting as Acute Myocardial Infarction: An Unusual Presentation Sanjeev Khunte Rajendra Institute of Medical Sciences, Ranchi, Jharkhand
47. A Case of Anaemic Heart Failure with High LDH and Low Serum Iron Sidhnath Singh Rajendra Institute of Medical Sciences, Ranchi, Jharkhand
46. Kikuchi Fujimoto Disease A Case Report Bejoy V Ealias Government Medical College, Kottayam, Kerala
45. Sickle Cell Anaemia Presenting as Type 4 Renal Tubular Acidosis and Hyperkalcaemia Jahnabi Bhagawati Datta Meghe Institute of Medical Science, Wardha, Maharashtra
44. Study of Prevalence and Pattern of Anaemia in Sub-Clinical and Overt Hypothyroid Patients Rohit Anand King George Medical University, Lucknow, Uttar Pradesh
43. Study of Impact of Subclinical Hypothyroidism on Iron Status and Hematological Parameters Rohit Anand King George Medical University, Lucknow, Uttar Pradesh
42. A Rare Case of Hailey Cell Leukemia Aadish Jain R.D. Gardner Medical College, Ujjain, Madhya Pradesh
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37. Study of Serum Sodium Levels in Decompensated Chronic Liver Disease Patients and its Clinical Significance Nihal Kumar Reddy Ammalal Reddy
36. Hepatopulmonary Syndrome: Bubbles that Clinched it !! Anand Karnam St. Martha's Hospital, Bangalore, Karnataka
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34. A Rare Case of Dress Syndrome with Thyroidism on Iron Status and Hematological Parameters Nihal Kumar Reddy Ammalal Reddy
33. A Rare Case of Dress Syndrome with Thyroidism on Iron Status and Hematological Parameters Nihal Kumar Reddy Ammalal Reddy
32. Study of Metabolic Syndrome In Patients With Treatment Naive Chronic Hepatitis B Infection Pinak Pani Das Silchar Medical College, Silchar, Assam
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HIV

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   DLW, Indian Railway, Varanasi, Uttar Pradesh

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   Gauhati Medical College and Hospital, Bhangar, Guwahati, Assam

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   St. Johns Medical College and Hospital, Koramangala, Bangalore 560034, Karnataka

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   St. Johns Medical College and Hospital, Koramangala, Bangalore 560034, Karnataka

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   All India Institute of Medical Sciences, Delhi

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   St. Johns Medical College and Hospital, Koramangala, Bangalore 560034, Karnataka

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   Amrita Institute of Medical Sciences, Ernakulam, Kerala

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   Sundaram Arulraj Hospital, Pune, Maharashtra

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   Seth Gs Medical College and KEM Hospital, Parel, Mumbai, 400012, Maharashtra

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    Jawaharlal Nehru Medical College, Nehru Nagar, Panipat, Haryana

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   RNT Medical College, Udaipur, Rajasthan

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   Seth GS Medical College and KEM Hospital, Parel, Mumbai, 400012, Maharashtra

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   PES Institute of Medical Science and Research, Kuppam, Andhra Pradesh

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   Sri Ramachandra Medical College, Porur, Chennai, Tamil Nadu

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   Sri Ramachandra Medical College, Porur, Chennai, Tamil Nadu

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   Sanjay Gandhi Medical Hospital, Hari Bhushan Nagar, Rewa 486001, Madhya Pradesh

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   Katihar Medical College, Katihar 854301, Bihar

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   Rajendra Institute of Medical Sciences Ranchi, Jharkhand

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    SVS Medical College and Hospital, Mahaboobnagar, Hyderabad, Telangana

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    St. Johns Medical College, Bangalore, Karnataka

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    Mysore Medical College and Research Institute, Mysore, Karnataka

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    Madras Medical College, Park Town, Chennai, Tamil Nadu

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   Ghandi Medical College, Secundрабad, Hyderabad, Telangana

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    Bangalore Medical College and Research Institute, Bangalore, Karnataka

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    Katihar Medical College, Katihar 854105, Bihar

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    ESICMC & PGIMSR, Bangalore, Karnataka

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    Seth GS Medical College and KEM Hospital, Parel, Mumbai, 400012, Maharashtra
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   Sree Mokkombara Institute of Medical Sciences, Padanilam, Kollam, Kerala

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   Satish Kumar Samal
   IMS & SUM Hospital, Bhubaneswar, Orissa

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   Adrijha Harya
   IPGMR, Kolkata, West Bengal

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   Rahul Sai Gangula
   Kasturba Medical College, Manipal, Karnataka

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   Rajdeb Saha
   Dr. D. Y. Patil Medical College, Sant Tukaram Nagar, Pimpri, Pune 411018, Maharashtra

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   John Abraham Tharayil
   Pushpagiri Institute of Medical Sciences and Research Centre, Kollam, Kerala

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   Murugesh Manjunatha
   Rabindranath Tagore Medical College, Udaipur, Rajasthan

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   Prudhvi P
   Manipal Hospitals, Old Airport Road, Bangalore, Karnataka

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   Darshit Shah
   Sir Ganga Ram Hospital, Old Rajinder Nagar, New Delhi

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    Mohammed Fahad
    Kasturba Medical College, Manipal, Karnataka

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    Satarupa Mohapatra
    SCB Medical College, Cuttack, Orissa

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    Jishnu J
    Baby Memorial Hospital, Calicut, Kerala

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    Susheel Kumar
    Department of Internal Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh

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    Susheel Kumar
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    Saibal Chakravorty
    Metro Multispeciality Hospital, Noida, Uttar Pradesh
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Saibal Chakravorty
Metro Multispeciality Hospital, Noida, Uttar Pradesh

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Saibal Chakravorty
Metro Multispeciality Hospital, Noida, Uttar Pradesh

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Sairam B
Sir Ganga Ram Hospital, Rajender Nagar, New Delhi

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Malepati Sai Sarath Reddy
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Yasser Faisal
KIIMS Hospital, Secunderabad, Telangana

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Romia Rodriguez
St. Johns Medical College, Sarjapur
Bangalore 34, Karnataka

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Amrita Institute of Medical Sciences, Peeliyadu Road, Ponekkara, Edappally, Ernakulam 682041, Kerala

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Rohit Vashishth
MH Jalandhar, Punjab

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Srivali Ch
Kasturba Medical College Manipal, Karnataka

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Sai Mounika Cherukuri
Kasturba Medical College, Manipal, Udupi, Karnataka

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Sailesh Kumar Bansival
Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi - 110029

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Mounika Velagapudi
KMC Manipal, Sonia Hostel Room Number 37, Manipal, Karnataka

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Deepak Sirivivas R
SRM Medical College Hospital and Research Centre, Chennai, Tamil Nadu

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Arnab Ghosh
AFMC, Pune, Maharashtra

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Mayank Patidar
Netaji Subash Chandra Bose Medical College, Khargone, Madhya Pradesh

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Yerraguntla Shashidhar
JNM Medical College, Davangere, Karnataka

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Bhargav VY
Sree Balaji Medical College, Chromepet, Chennai, Tamil Nadu

34. The Spectrum of Pulmonary Involvement in Malaria
Sneha D Kamath
SPMC, Bikaner, Rajasthan

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Jasmine Kaur Bhatia
MVJ Medical College and Research Hospital, Dandupalya, Hoskote, NH4, Bangalore 562114, Karnataka

36. Cerebral Venous Thrombosis: A Rare Neurological Complication of Chicken Pox
Anuradha Mehta
VMMC and Safdarjung Hospital, Ring Road, Opposite AIIMS Hospital, Ansari Nagar, New Delhi

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Soumyadip D Kamath
SVM and Safdarjung Hospital, New Delhi

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Rahul Arora
Tata Memorial Centre, Tata Memorial Hospital, Ernest Borges Marg, Mumbai 400012, Maharashtra

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Raghavendar Reddy G
SDUMC, Tamaka, Kolar 563101, Karnataka

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Subrahmanya Murti Velamakanni
North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, Meghalaya

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Anto Ignat Stany M
Father Muller Institute of Medical Education and Research, Mangalore, Karnataka

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Rajkumar AK
JNM Medical College, Davangere 577004, Karnataka

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Kiran Kumar BN
JNM Medical College, Davangere 577004, Karnataka

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Sadana Khatnawliya
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Swapan Deep Singh Nagpal
Max Super Speciality Hospital, W-3, Sector 1, Vaishali, Ghaziabad 201012, Uttar Pradesh

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Karanjaya Medical College, Kakinada, Visakhapatnam, Andhra Pradesh

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JNM Medical College, Davangere 577004, Karnataka

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MNR Medical College, Falaswadi, Sangareddy, Hyderabad 502285, Telangana

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Suresh Kumar Reddy Yenna
Gandhi Medical College, Hyderabad, Andhra Pradesh

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Shreyo Gupta
Dr. RML Hospital and PGIMER, Delhi

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Kerala Institute of Medical Sciences, Anayara P.O. Trivandrum, Kerala
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Gatia Bhaskar
Gandhi Medical College, Hyderabad, Andhra Pradesh

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Jyothsna Pagoti
St. Mathews Hospital, Opposite RRL, Nrupathunga Road, Bangalore 560001, Karnataka

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Vittamraj Sumanth
NIMS, Hyderabad, Andhra Pradesh

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John George
Christian Medical College, Vellore, Tamil Nadu

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Gandhi Medical College, Secunderabad, Andhra Pradesh

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Venkatesh BS
MVJ Medical College, Hoskote, Karnataka

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Gnanaguru Durairaj
Amrita Institute of Medical Sciences, Kochi, Kerala

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Deepthi Samuel
KMC, Mangalore, Karnataka

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Dileep Raja
NIMS Hospital, Punjagutta, Hyderabad 500082, Andhra Pradesh

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Vijay Alexander
Christian Medical College, Vellore, Tamil Nadu

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Abdul Samad Peshimam
Gandhi Medical College, Secunderabad, Telangana

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Chandraket Singh
SGL Charitable Hospital, Garha Road, Jalandhar, Punjab

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Chandraket Singh
SGL Charitable Hospital, Garha Road, Jalandhar, Punjab

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Raghu Ram Reddy
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Krupa Chokshi
KJ Somaiya Medical College & Research Centre, Mumbai, Maharashtra

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Sumedha Swamy
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Sneha SR
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Dorairajan Sureshkumar
Apollo Hospitals, Greams Road, Chennai, Tamil Nadu

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Chandraket Singh
SGL Charitable Hospital, Garha Road, Jalandhar, Punjab

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Mohammad Fakruddin BM
KIMS, Bangalore Kr Road, Bangalore 560004, Karnataka

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Aryan Basu
All India Institute of Medical Sciences, Kolkata, West Bengal

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Chandan Kumar
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Rahul Shah
Government Medical College, Majura Gate, Surat, Gujarat

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V Aditya
Kurnool Medical College, Kurnool, Andhra Pradesh

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Koushik Yeluri
JSS Medical College, Mysore, Karnataka

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Surendra Meena
Rajendra Institute of Medical Sciences, Room No.63, Hostel No. 6, RIMS Boys Hostel, Bariyatu, Ranchi, Jharkhand

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Dinesh Chauhan
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Dhiraj Kishore
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Narayane Rajasekaran
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Syed Noorzia Sultana
Kurnool Medical College, Kurnool, Andhra Pradesh

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Dinesh Chauhan
Government Medical College, Calicut, Kerala

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Nath AS
Kilpauk Medical College, Chennai, Tamil Nadu

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Narajan Mandal
Pt. J.N.M. Medical College, Raipur, Chattisgarh

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Arjun Shah
MS Ramaiah Medical College, MS Ramaiah Nagar, MSRIT Post, Bengaluru 560054, Karnataka

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Pooja Lokkur
KLES, Dr. Prabhakar Kore Hospital and Medical Research Centre, Bangalore, Karnataka

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Chaitra CS
Mysore Medical College, Mysuru, Karnataka

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Gudivada Dharma Teja
Asram Medical College, Eluru, West Godavari District, Andhra Pradesh
Miscellaneous

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   Manishi Nautiyal
   Sir Gangaram Hospital, Old Rajinder Nagar, New Delhi

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   Vijayalakshmi Bodanam
   SI MS Medical College, Rajasthan

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   Thotakura Praneeth Chowdary
   Dr. DY Patil Medical College, Bangalore, Karnataka

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   Sir Ganga Ram Hospital, New Delhi

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   Roopa Verma
   Sir Ganga Ram Hospital, New Delhi

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   Roopal Verma
   Sir Ganga Ram Hospital, New Delhi

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   Amanish Tiwari
   Shalaka Shinde
   Government Medical College, Kottayam, Kerala

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   Ashwin Mathur
   SMS Hospital, Jaipur, Rajasthan

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   Divya Gandra
   Kasturba Medical College Manipal, Karnataka

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    Divya Sharma KR
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    Dharmendra Singh
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    JJM Medical College, Davangere 577004, Karnataka

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    Swapan Deep Singh Nagpal
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    Kaavya Rao
    SMS Medical College, Rajasthan

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    Mohammed Zakria
    Bangalore Medical College, Bangalore, Karnataka

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    Ashish Lakhanpal
    Rohilkhand Medical College and Hospital, Near Piibhii Byeapaas, Bareilly, Uttar Pradesh

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    Krishana CS
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    M Ravi Teja Raidu
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    Savitha Vijayakumar
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23. An Interesting Case of PUO - Kikuchi Fujimoto Disease
    Shivanathan Marimuthu
    Madras Medical College, Rajiv Gandhi Govt General Hospital, Chennai 600003, Tamil Nadu

24. Dapsone Induced Hypersensitivity Syndrome
    Jerry Joseph
    Government Medical College, Kottayam, Kerala

25. Hemophagocytosis Lymphohistiocytosis
    Gita M
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26. A Case of Kikuchi Disease
    Cromwell Biakmuawmna
    Government Medical College, Kottayam 686008, Kerala

Nephrology

1. HereditaryDistal Renal Tubular Acidosis - New Understandings
   Shalaka Shinde
   DY Patil Medical College and General Hospital, Sant Tukaram Nagar, Near YCM Hospital, Pimpri, Pune 411018, Maharashtra

2. Renal Cell Carcinoma Manifesting as Cutaneous Leukocytoclastic Vasculitis
   Vishnu Bhaskar
   Navodaya Medical College, Raichur, Karnataka

3. A Case of Rapidly Progressive Glomerulonephritis
   Badada Phaniraj
   Durgabai Deshmukh Hospital and Research Centre, Vidyvanagar, Hyderabad, Telangana

4. Case of HIV Infection with Disseminated MDR TB with Type 1 Renal Tubular Acidosis
   Subin Philip
   Armed Forces Medical College, Waneiwar, Pune 411040, Maharashtra

5. Rhabdomyolysis and AKI Associated with Statin Therapy
   Bonthu Srinatha
   Krishna Institute of Medical Sciences, Secunderabad, Andhra Pradesh

6. A Study of Mineral Bone Disease in Chronic Kidney Disease Patients
   Adesh Shetty
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7. A Rare Case of Rapidly Progressive Renal Failure, Tubulo Interstitial Nephritis, IGG4 Related
   Vikash Kumar
   Armed Forces Medical College, Pune, Maharashtra

8. A Case of C3 Glomerulopathy [Dense Deposit Disease]
   Annapoorna Mundinamani
   BMDRI, Bengaluru, Karnataka
9. Gitelman’s Syndrome : A Rare Case Presentation of Refractory Hypokalemic Paralyis
Kamalesh Bajia
SMS Medical College, Jaipur, Rajasthan

10. Gitelman’s Syndrome in Elderly Female - A Rare Case
Arjun Anandappa
SSIMS&RC, Jnanashankara, NH4 Bypass, Davangere, Karnataka

11. To Find Out the Association of Single Nucleotide Polymorphisms (SNPs) within KCNQ1 Gene with Diabetic Nephropathy in Indian Subjects with Type 2 Diabetes
Rohit Mathur
Sardar Patel Medical College, Bikaner Rajasthan

12. Tenofovir Induced Renal Fanconi Syndrome in a HIV+VE Patient Presenting as Refractory Tetany
Rajendra Prasad H
Bangalore Medical College and Research Institute Fort, K.R. Road, Bangalore 560002, Karnataka

13. C3-Mediated Glomerulonephritis- A Cause of Gross Hematuria- A Rare Case Report
K Divya Srinarshala
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14. Gentamicin Induced Bartter Syndrome in a Post Partum Women - A Rare Case Study
Jithin George
S.S. Institute of Medical Sciences and Research Centre, Davangere, Karnataka

15. To Study the Pattern of Seroconversion of Hepatitis B Vaccination in Ckd Patients and it’s Correlation with Inflammatory Markers
Sadhana Madyalakar
D.Y. Patil Hospital & Research Center, Kolhapur, Maharashtra

16. Non Traditional Cardiovascular Risk Factors Relate to Cognitive and Executive Function Impairment in CKD Patients
Sailesh Kumar Bansiwal
Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi 110029

17. The Blind Gitelman
Srivalli Ch
Kasturba Medical College, Manipal, Karnataka

18. Study of Cardiovascular Abnormalities in Patients with Chronic Renal Failure Yerraguntla Shashidhar
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19. Mean Platelet Volume (MPV) as a Prognostic Marker in Acute Kidney Injury Hafeesh Fazulu Rahman
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20. Insulin Resistance in End Stage Renal Disease: A Research Study Shruthi Swamy
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21. An Interesting Case of ADPKD Presenting with Hypertensive Emergency Daya Sindhu Krishna
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22. Association of Cognitive Impairment with Carotid Intima Media Thickness in Predialysis Chronic Kidney Disease Patients
Harshit Khosla
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23. Pattern of Glomerular Diseases in Adults: A Study from North Eastern India
MD Jamil
NEIGHRIMS, Shillong, Meghalaya

24. Bardet Biedel Syndrome with End Stage Renal Disease Soumya Sathyam
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25. Clinical Profile and Study of Endothelial Dysfunction in Chronic Kidney Disease Patients Attending a Tertiary Health Care Centre in North East India Anamika Das
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26. Chronic Kidney Disease in an Industrial Hospital: Our 12 Year Experience Balwant Singh Kushwaha
BHEL, Main Hospital, Haridwar, Uttarakhand

27. Abnormalities of Thyroid Function Test in Chronic Kidney Disease Patients; A Study from Tertiary Care Teaching Hospital in Rohilkhand Region. Harsh Kaulshad
Rohilkhand Medical College, Bareilly, Uttar Pradesh

Rangayana Medical College, Kakinada, Andhra Pradesh

29. Role of Parathyroid Hormone in Early Detection of CKD-MBD “Silent Crier” Ankur Gupta
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30. To Study the Correlation Between Kidney Diseases and Prediabetes Trishala Chhabra
NSCBMCH, Jabalpur, Madhya Pradesh

31. An Interesting Case of Membranous Glomerulonephritis Presenting as Malignant Hypertension in Female Vinay Babu CS
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32. Correlation of Serum Lipid Profile with Carotid Intima Media Thickness as a Marker of Atherosclerosis in Chronic Kidney Disease Patients Manasa Ali
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33. A Study on Biochemical Profile of Thyroid Abnormalities in Chronic Kidney Disease and its Correlation with Glomerular Filtration Rate Neelkanth Girenavar
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34. A Study of Cognitive Function in Different Stages of CKD Harikrishna Bhukya
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35. Severe Hypokalemia with Quadripareisis, A Rare Cause - Gitelman Syndrome Vivek Shiroi
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36. Evaluate Neutrophil Gelatinase Associated Lipocalin (NGAL) as a Marker of Early Development of Acute Kidney Injury in Adult ICU Patients Gangavaram Naveen Kumar Reddy
JSS Medical College, Mysore, Karnataka

37. “Dreaded Pseudo” – Pseudo Renal Failure Due to Urinary Ascesses Mithun Mathiyazhakan
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38. A Case of Hypokalemia Paralysis Bhavani KV
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39. Interesting Case of Pituitary Microadenoma Pavithra Pinalivel
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40. A Case of Adult Onset Bartter’s Syndrome Ram Prasanth
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41. IG4 related Interstitial Nephritis Gopinath Venkatesan
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42. Lymphomatous Infiltration of Kidneys Jayaprakash K
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43. A Study of Thyroid Profile and its Association in Patients with Undialyzed Chronic Kidney Disease Naga Tanooj
ESIC Medical College, Bangalore, Karnataka
44. An Interesting Case of Quadriparesis
Arun G
Govt. Kilpauk Medical College Hospital, Kilpauk, Chennai 10, Tamil Nadu

45. Clinical, Biochemical and Histopathologic Spectrum of Glomerular Diseases at a Tertiary Centre of Andhra Pradesh
Ventralpragada Neelima
Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation, Chinnavutapalli, Gannavaram, Krishna District, Andhra Pradesh.

46. Prevalence and Predictors of Acute Kidney Injury in Dengue Fever Patients
Srikant Yadav Meesala
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47. Symptomatic Cardiac Manifestations in CKD
Srvanthi Reddy
JSS Hospital, Mysore, Karnataka

48. Renal Resistivity Index in Chronic Kidney Disease: A Prognostic Indicator
Animesh Gupta
Motilal Nehru Medical College, Allahabad, Uttar Pradesh

49. Hypokalemic Periodic Paralysis as a Presenting Manifestation of Primary Sjogren's Syndrome
Aadish Jain
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Neurology

1. Moyamoya Syndrome - A Clinical & Radiological Study of 26 Patients in a Tertiary Care Center
Shambaditya Das
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2. Clinical Profile and Outcomes of Guillain-Barré Syndrome at a Tertiary Care Centre in Southern India
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3. Quadriplegia with Multiple Cranial Nerve Involvement
Koushik Chavalla
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4. Study of Association of Metabolic Syndrome in Patients with Stroke - an Observational Study
Manohar MR
S. Nijalingappa Medical College, Navanagar, Bagalkot, Karnataka

5. Hemiplegia in a Young Girl
Shipra Gulati
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6. Neurological Manifestations of Post Varicella Syndrome
Rajesh Kumar Goyal
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7. Management of Progressive Supranuclear Palsy
Akshay Dhanorkar
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8. Dyke-Davidoff-Masson Syndrome: A Rare Case Report
Nitishe Goyal
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9. Lacosamide Induced PSVT in an Unusual Case
Jineesh Raj
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10. A Study of Red Cell Distribution Width in Acute Ischemic Stroke and its Correlation with the Severity of Stroke
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11. Overlap Syndrome of Acute Motor Axonal Neuropathy and Miller Fisher Syndrome Presenting with Hyperreflexia
John Abraham Tharayil
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Shaama Ghungroo
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13. A Case Report of Amyloid Myopathy: An Underdiagnosed and Rare Entity
Siddhant Bansal
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14. Short Series of Cryptococcal Meningitis Cases Managed in a Tertiary Care Hospital
Naveen John
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15. An Interesting Case of Acute Polyneuropathy in the Context of Acute Pancreatitis
Aswathi Harikumar
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16. Rare Neuro-Ophthalmic Manifestation of Hyperhomocysteinemia
Nithesh Kumar
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17. A Case of Lupus Cerebritis
Vishal Asrani
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18. A Case Report of Huntingtons Disease with Retained Cognitive Function
Rajat Pincha
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19. A Clinico-Radiological Study of Spontaneous Intracerebral Haemorrhage in Elderly in a Tertiary Care Hospital
Satya Sandeep Saladi
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20. A Study of Bone Disease in Patients on Long Term Anti Epileptic Drug Therapy
Aditi Desai
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21. Thrombolysis in Ischemic Stroke - A Single Hospital Experience
Suganya K
GKVM Hospital, Coimbatore, Tamil Nadu

22. Opsoclonus-Myoclonus-Ataxia Syndrome in an AIDS Patient
Yogesh Kolamkar
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23. Spontaneous Intracranial Hypotension: A Benign but Discomfortable Condition
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24. Acute Neuropathy following Honey-bite Sting
Satya Sandeep Saladi
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25. A Case of Neuro Lupus
Vishal Asrani
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26. Estimation of Sleep Related Disorders (SRDS) in Parkinson's Disease - A Hospital Based Study
Akshay Deepak
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27. A Rare Association causing Quadriparesis
Swapanika Vemulapalli
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28. Hypokalemic Paralysis due to Barter Syndrome
Aditi Desai
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29. A Case of Autoimmune Encephalitis
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30. Estimation of Vascular Age and Risk Profile in Patients of Ischemic Stroke
Swati Sharma

44. An Interesting Case of Distal Myopathy
Meghana BS
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45. Neuroimaging Findings in Seizure Patients Attending a Tertiary Care Hospital: A Cross-Sectional Study
Soumya Sathyan
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46. A Rare Movement Disorder
Monseeha Srinivasan
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47. Meningeal Signs – It’s Validity in Suspected Meningitis
Rahul Ranjan
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48. Caudal Regression Syndrome-An Interesting Case Report
Rahul Ranjan
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49. A Case of Acute Hepatitis-E Virus Associated Parkinsonism in a 20 Year Old Boy
Tippani SriRatha
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50. Multiple CNS Tuberculomas with Brain Abscess Presenting as Hemiparesis without Facial Involvement
Tippani SriRatha
JMJ Medical College, Davangere, Karnataka

51. A Case of Secondary Parkinsonism in a HIV Positive Patient with Cerebral Toxoplasmosis
Jyothish Vemula
Rangaraya Medical College, Kakinada, Andhra Pradesh

52. A Rare Presentation of Arachnoid Cyst as Altered Sensorium
Raghveer P
JMJ Medical College, Davangere 577004, Karnataka

53. Recurrent Seizures: A Rare Presentation of Neuroleptospirosis
Karthik Reddy Mamidi
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54. Extensive Acute Disseminated Encephalomyelitis in a Young Girl Responding to Intravenous Methyl Prednisolone
Pradhasaradhi Jampani
M VJ Medical College, Hoskote, Karnataka

55. An Unusual Case Report of Brain Tumor
S Pragna
Gandhi Medical College, Secunderabad, Andhra Pradesh

56. A Case Report of Idiopathic Intracranial Hypertension with Monocular Proptosis
Vikram Uttam Patil
St. Marthas Hospital, Old Airport Road, Bangalore 560017, Karnataka

57. Stroke – Intracerebral Multiple Infarcts: Rare Neurological Presentation
Subhrajit Bhattacharya
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58. A Study on Demyelinating Diseases of Central Nervous System – A Prospective Analytical Study
Sarala Divya Akella
Andhra Medical College, Visakhapatnam, Andhra Pradesh

59. Normal Pressure Hydrocephalus
Naman Bansal
PGIMER Dr. Ram Manohar Lohia Hospital, New Delhi

60. A Case of Spontaneous Burn-Syringomyelia with Arnold Chiari Malformation Type 1
Neel Patel
Dr. DY Patil Medical College and Research Hospital, Pune, Maharashtra

61. A Case of Bibrachial Palsy
Anchit Singh
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62. An Intresting Case of Neurofibromatosis
Pardhasaradhi Jampani
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63. A Rare Case of Neuromyelitis Optica Spectrum Disorder
Uday Vadicherla
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64. Clinical Profile of GBS in Tertiary Care Hospital
Geethanjali G
Kasturba Medical College, Manipal, Karnataka

65. Limbic Encephalitis–A Diagnosis Often not Considered?
Anand Karnam
St. Theresa's Hospital, Bangalore, Karnataka

66. Bulbar Onset Polymyositis with Overlap Syndrome – Mimicking Motor Neuron Disease
Vikram Uttam Patil
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67. Case Series of Neuro Tuberculosis
RV Chandra Mamidila
Dr. M Social Justice Hospital, Madurai Medical College, Madurai, Tamil Nadu

68. Acute Ischemic Infarct in Middle Cerebral Artery Territory after Russell Viper Snake Bite
Abhishek Sunku
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69. Intramedullary Spinal Tuberculoma – An Uncommon Manifestation of a Common Disease
Nandini Kiruthika Ravichandran
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70. A Study on “Etiological and Clinical of Peripheral Neuropathy”
K. Joy Mounica
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71. Encephalitis an Unusual Neurological Manifestation following Snakebite
Surendra Meena
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72. A Case Series of Posterior Reversible Encephalopathy
Swapna M
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73. Congenital Myotonia
Eshan Shinde
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74. A Case of Atypical Presentation of a Rare Disorder – PRES
Mohammad Inaamul Hassan M
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75. A Rare Case Report of Syringomyelia with Limb Hypertrophy
Yamini Priyanka Pentakota
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76. A Case of CSF Rhinorrhea
Menaka Sathasivam
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77. Peripheral Neuropathy - A Rare Cause
Nandhini Devi
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78. Sturge Weber Syndrome
Gopi Krishna
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79. Diagnostic and Prognostic Significance of CSF - CPK in Meningitis
Hareen Kumar Regulavalasa
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80. Pulmonary Hypertension in Neurofibromatosis Type -1
Hareen Kumar Regulavalasa
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81. Pulmonary Hypertension in NF Type -1
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82. A Case of Tubercous Sclerosis
Santhosh Kumar Peddapalli
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83. Idiopathic Intracranial Hypertension (Pseudotumor Cerebri)-A Rare Case Report in a Male Patient
Rakesh M
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84. Clinical Profile of Patients with New Onset of Alcohol Related Seizures
Ramya Puligari
SVS Medical College and Hospital, Maboobnagar, Telangana.

85. A Case of Neurocysticercosis
Samaresh Paul
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86. Lateral Medullary Syndrome: A Relatively Uncommon Entity with a Wide Spectrum of Presentation
Malyaban Das
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87. Guillaine Barre Syndrome Presenting Unusually as Bilateral Claw Hand
Anchal Arora
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88. A Case of Dyke Davidoff Manson Syndrome
Saritha Kalyanam
Osmania General Hospital, Hyderabad, Andhra Pradesh

89. A Case of Lafora
Deeyaneswar Dharmalingam
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90. A Rare Case Presentation of Tumefactive Demyelination
Bandi Swathi
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91. The Prognostic Role of Cortisol in Predicting Short Term Outcome Following Acute Ischemic Stroke
Ankit Ray
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92. One Protein: 2 Arterial Thrombosis
Akhil Shaik
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93. An Unusual and Interesting Case of Coexisting Rheumatoid Arthritis with Neuromyelitis Optica
Arundhati Baru
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94. An Interesting Case of Autoimmune Encephalitis
Arundhati Baru
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95. A Study of Serum Ferritin Level as a Prognostic Marker in Subjects with Acute Ischemic Stroke in a Tertiary Care Centre
Shivakumar HR
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96. Cerebral Venous Sinus Thrombosis in Young Male Due to an Uncommon Etiology
Vaibhav Mathur
Rajendra Institute of Medical Sciences, Ranchi, Jharkhand

97. Fahr Syndrome A Case Report
Likhita Dasari
Likhita Dasari, Vijayawada, Andhra Pradesh

98. A Rare Case of Severe Autonomic Dysfunction Following Bariatric Surgery
Sushma S
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99. A Rare Case Presentation of Hemorrhagic Acute Disseminated Encephalomyelitis
Shivakumar HR
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100. Hashimoto Encephalopathy
Vaibhav Mathur
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101. Awake but Unresponsive an Atypical Presentation of Cerebral Sinus Venous Thrombosis (CSVT)
Shalima Pinnamaneni
Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation, Chinoutpalli, Gannavaram, Krishna, Vijayawada 521286, Andhra Pradesh

102. Congenital Myasthenic Syndrome-Fast Channel Type
Priyanka Jangam
Dr. Pinnamaneni Siddhartha Institute of Medical Sciences & Research Foundation; Chinoutpalli, Gannavaram, Krishna Dist. 521286, Andhra Pradesh

103. Wilsons Disease with Parkinsonism in a Young Patient
Srikanth Kothalkar
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104. A Clinical Study on Topographical Analysis of Vascular Territories in Stroke with Clinical and Etiopathogenesis
Shyam Kumar Kotni
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105. Clinical Profile and Predictors of Outcome in Guillain Barre Syndrome
Anjana Gopal
Government Medical College, Calicut, Kerala

106. Missing Parathormone – The Reason behind the Missing Memory
Nandini Kiruthika Ravichandran
Tirunelveli Medical College, Tirunelveli, Tamil Nadu

107. Seizures: A Rare Presentation of Wilson Disease
Dinesh Ravichandran
Madurai Medical College, Madurai, Tamil Nadu
Oncology

1. PNET Presenting as Chest Wall Swellings and its Vanishing Act
   Anto Ignat Stany M
   Father Muller Institute of Medical Education and Research, Mangalore, Karnataka

2. Rare Case of Cutaneous Lymphoma
   Navein John
   St. Johns Medical College Hospital, Bangalore, Karnataka

3. A Case of High Grade B Cell Non-Hodgkin Lymphoma
   Urvashi Gupta
   Dr. D.Y. Patil Medical College and Hospital, Pimpri, Pune, Maharashtra

4. Hoarseness-A Rare Presentation of Pancoast Tumor
   Harpreet Kaur
   Government Medical College, Patiala, Punjab

5. Lung Mass With Leukemoid Reaction: Insight
   Dyana Jones
   VYdehi Institute of Medical Sciences and Research Centre, 82, Nallurahalli, Near BMTC, 18th Depot, Whitefield, Bengaluru 560066, Karnataka

6. Myasthenia Gravis-Rare Presentation of Invasive Thymoma in a Young Adult
   Annie Kanchan Baa
   VMMC and Safdarjung Hospital, Near AIIMS Hospital, Ansari Nagar, New Delhi 110029

7. Adenocarcinoma of Lung Presenting with Multiple Venous Thrombosis - A Rare Presentation
   Judah Arul
   Sri Ramachandra University, Porur, Chennai, Tamil Nadu

8. Hyperphosphatemia: Isolated Biochemical Abnormality Leading to Diagnosis of Multiple Myeloma
   Saurabh Gaba
   Government Medical College and Hospital, Sector 32, Chandigarh

9. A Journey from Vestibulitis to Esthesioneuroblastoma
   Padakanti Anudeep Rao
   Kasturba Medical College, Mangalore, Karnataka

10. Hyperphosphatemia: Isolated Biochemical Abnormality Leading to Diagnosis of Multiple Myeloma
   Saurabh Gaba
   Government Medical College and Hospital, Sector 32, Chandigarh

11. A Rare Cause of Chylous Ascites
    Divya Gandrala
    Kasturba Medical College, Manipal, Karnataka

12. Non Hodgkins Lymphoma Presenting as B/L Facial Palsy
    M Saitej Reddy
    Gandhi Hospital, Secunderabad, Telangana

13. A Rare Presentation of Hepato Cellular Carcinoma with Multiple Venous Thrombi
    Vamshi Krishna Mudamanchu
    Asram Medical College, Eluru, Andhra Pradesh

14. A Rare Case of Adenocarcinoma Lung with Paraneoplastic Pancerebellar Syndrome
    Dattu Raj Jangam
    Asram Medical College, Eluru, Andhra Pradesh

15. A Case of Polyuria and Altered Mentaion
    Amit Kumar
    Rajendra Institute of Medical Sciences, Ranchi, Jharkhand

16. A Rare Association of AL Amyloidosis with Small Lymphocytic Lymphoma in a Patient with Nephrotic Syndrome
    Manasa Alla
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17. Ovarian Carcinoma with Spinal Metastasis
    Aamma Maniyar
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18. A Rare Presentation Multiple Myeloma in a Young Male Patient
    Prashanth M
    ESICMC & PGIMSR, Rajajinagar, Bangalore, Karnataka

19. Multiple Myeloma Presenting as Pancreatitis
    Prashant Kumar Nirnakar
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20. Rare Case of Primary Mediastinal Hodgkins Lymphoma
    Abhishek SY Gowda
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21. Clinical Profile, Outcome and Application of MASCC Scoring in Febrile Neutropenic Patients in a Tertiary Centre
    Chaitanya N
    MS Ramaiah Medical College, Bangalore, Karnataka

22. Multiple Myeloma-Poems Syndrome
    Satish Shanmugasundaram
    Coimbatore Medical College, Coimbatore, Tamil Nadu

23. Gemcitabine-Induced Systemic Capillary Leak Syndrome
    Harish V Ballur
    JNMC, Belgaum, Karnataka

24. Hemophagocytic Lymphohistiocytosis – A Rare But Life Threatening Condition
    Shruti Sagar Bongu
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25. Unusual Cause of Multiple Cranial Nerve Palsy
    Aditi Raghunathan
    Ramaiah Medical College, MSR Nagar, Mathikere, MS Ramaiah Post, Bangalore 560054, Karnataka

26. Langerhan Cell Histiocytosis Presenting as Hypothyroid Goitre in a Young Male, Unique Presentation of Rare Disorder
    Srikanth Yadav Meesala
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Poisoning and Toxicology

1. An Unusual Presentation of a Common Entity-Stroke following Snake Bite
   Sumana B
   Bangalore Medical College and Research Centre Fort, K.R. Road, Bengaluru 560002, Karnataka

2. Hypokalemia in Organophosphorous Compound Poisoning
   Subhba Hegde
   Bangalore Medical College and Research Institute, Bangalore, Karnataka

3. Simplified Acute Physiology Score III Versus Acute Physiology and Chronic Health Evaluation IV in Organophosphorous Poisoning
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13. Serum Amylase Level at Admission as a Prognostic Marker in Patients of Organophosphorous Compounds Poisoning
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14. Random Blood Sugar Level at Admission as a Prognostic Marker in Patients of Organophosphorous Compounds Poisoning
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4. Takayasus Arteritis: Case Reports
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5. Pyrexia of Unknown Origin - Remem-
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7. A Rare Case of Sjogrens Syndrome Presenting as Recurrent Hypokalemia
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8. A Rare Case of Sjogrens Syndrome Presenting as Craniovertebral Junction Anomaly with Compressive Myeopat-
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17. Granulomatosis with Polyangiitis Presenting as Deep Venous Thrombo-
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18. Unusual Manifestation of Eosinophilic Granulomatosis with Polyangiitis (Churg -Strauss Syndrome) Presenting as Deep Venous Thrombo-
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20. An Interesting Case of Acute Kidney Injury
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29. Hypertensive Encephalopathy as a Clinical Presentation of Takayasus Arteritis
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32. A Case of Pleural Effusion, DVT and ILD - A Diagnostic Dilemma
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34. Lupus Pancreatitis - A Rare, Fatal, Initial Presentation of Systemic Lupus Erythematosus
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53. A Rare Case of Systemic Lupus Erythematosus Presenting with Budd Chiari Syndrome Shwetha Prasad Budanur Shiva  
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58. Takayasu Arteritis - A Rare Case of Vasculitis Akbar Sha  
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59. A Rare Case of Mixed Connective Tissue Disorder in a Male Patient Y Raghu Nandhini  
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60. Inflammatory Myositis- Polymyositis Deepath Gunavel  
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61. Adult Onset Kawasaki Disease Balamurugan S  
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