

Atlantoaxial Dislocation Presenting with Quadriplegia after Local Neck Massage Therapy: A Unique Presentation



Rishav Mukherjee¹, Kalyani Chakrawar², Debanjan Nandi³, Chirantan Mandal⁴, Boudhayan Das Munshi⁵, Saikat Mondal⁶, Anirban Ghosh^{7*}

Received: 09 February 2026; Accepted: 30 March 2026

Keywords: Brainstem stroke, Craniovertebral junction, Neck massage, Quadriplegia.

Journal of The Association of Physicians of India (2026); 10.59556/japi.74.1663

A hypertensive man in his early 60s was brought to the emergency department with the chief complaints of sudden-onset inability to move the extremities and altered mentation. He had a history of chronic neck pain for the last 3–4 years with an exacerbation of the pain, for which he was recommended by his physiotherapist to undergo flexion, extension, rotation, and lateral flexion maneuver under medical supervision, but the patient went to a local salon and underwent a neck massage after a haircut, following which he developed hiccups and dysphagia to solids more than liquids, followed by slurring of speech. He gradually started developing weakness on the right side of the body, which progressed to quadriplegia over a period of 3 days.

He presented to the hospital conscious and alert, with spontaneous eye opening and response to all verbal commands but had hypotonia and 0/5 power in all extremities. He was intubated in view of poor mentation and later underwent a tracheostomy and was continued on mechanical ventilation. Computed tomography images of the brain showed extra-axial hemorrhage at the craniovertebral junction level impinging upon

medulla, with widening of the atlantodental interval. Magnetic resonance imaging (MRI) of the brain and spine was done for further characterization. It revealed atlantoaxial dislocation, extra-axial hematoma impinging upon medulla, and edema involving pons, medulla, and cervical spine up to the C5–C6 IV disc level (Fig. 1).

The patient underwent bilateral C1–C2 transpedicular screw fixation and placement of bone graft from the iliac crest at C1–C2 joint titanium implant fixation. This case clinches the need for the physician to think out of the box and consider the possibility of atlantoaxial dislocation and associated extra-axial hemorrhage,¹ causing brainstem compression in an elderly patient with no preexisting disease presenting with quadriparesis as the vital centers of respiration and circulation are located there and hence the need for urgent neurosurgical intervention.

ORCID

Rishav Mukherjee <https://orcid.org/0000-0001-5883-2908>

Kalyani Chakrawar <https://orcid.org/0009-0006-5743-4231>

Debanjan Nandi <https://orcid.org/0000-0002-8982-9821>

Chirantan Mandal <https://orcid.org/0009-0001-0098-8560>

Boudhayan Das Munshi <https://orcid.org/0000-0003-0947-7190>

Saikat Mondal <https://orcid.org/0000-0002-0252-089X>

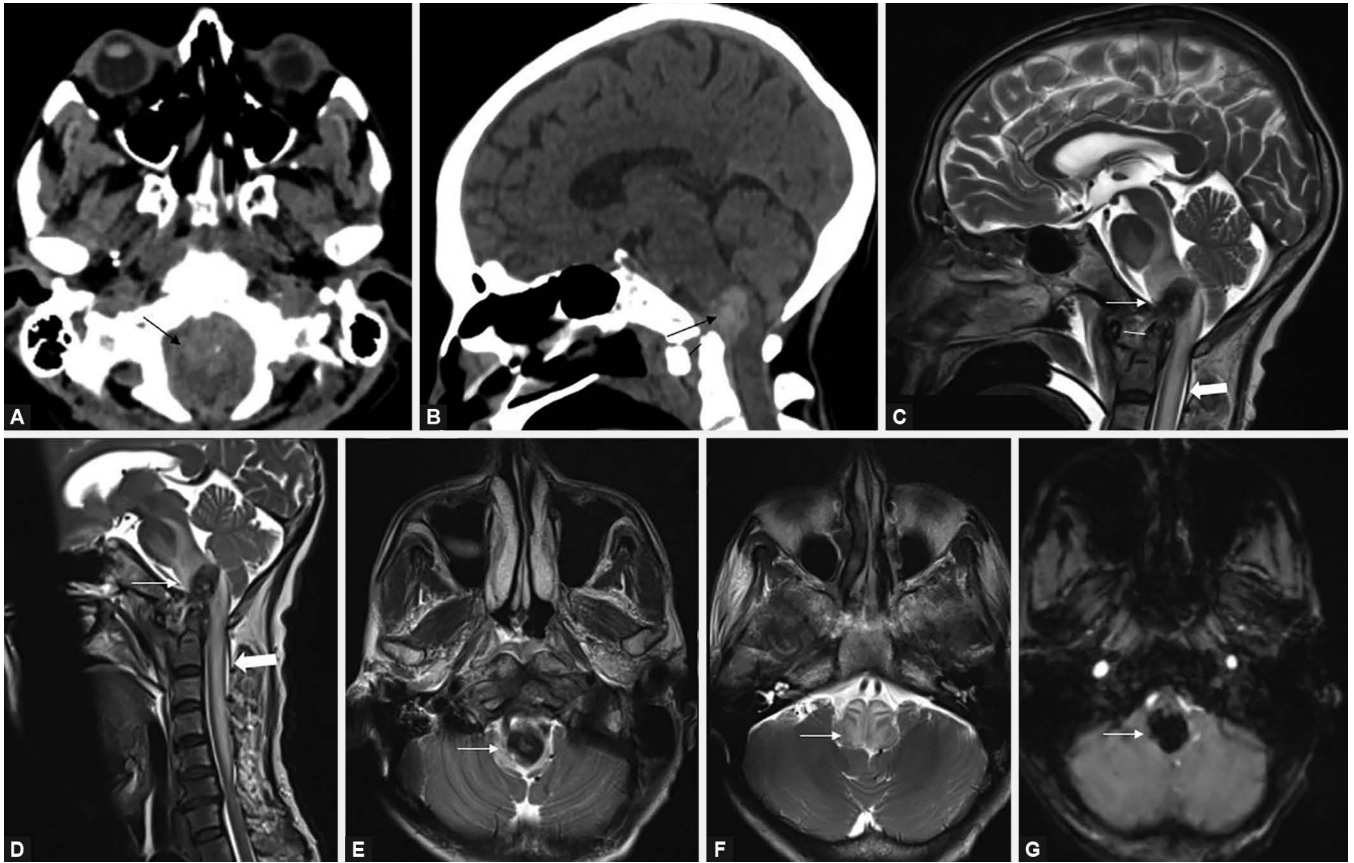
Anirban Ghosh <https://orcid.org/0000-0002-6302-1242>

REFERENCE

1. Yin P, Gao N, Wu J, et al. Adverse events of massage therapy in pain-related conditions: a systematic review. *Evid Based Complement Alternat Med* 2014;2014:480956.

¹Assistant Professor; ²Junior Resident, Department of Medicine; ³Assistant Professor, Department of Radiodiagnosis; ⁴Assistant Professor, Department of Medicine; ⁵Associate Professor, Department of General Medicine; ⁶Associate Professor and HOD, Department of Medicine; ⁷Assistant Professor, Department of Medicine, All India Institute of Medical Sciences, Kalyani, West Bengal, India; *Corresponding Author

How to cite this article: Mukherjee R, Chakrawar K, Nandi D, et al. Atlantoaxial Dislocation Presenting with Quadriplegia after Local Neck Massage Therapy: A Unique Presentation. *J Assoc Physicians India* 2026;74(8):90–91.



Figs 1A to G: (A) Axial computed tomography image at the level of craniocervical junction showing extra-axial hematoma around odontoid process of C2 vertebra (shown by thin black arrow); (B) Sagittal multiplanar reformatting computed tomography image showing extra-axial hematoma (shown by thin black arrow) at base of skull impinging upon medulla oblongata, widening of atlantodental interval (shown by thin black line) suggestive of atlantoaxial dislocation; (C) Sagittal T2W MRI image of the brain showing T2 hypointense extra-axial hematoma (shown by thin white arrow) at base of skull impinging upon medulla oblongata with T2 hyperintensity representing edema (shown by thick white arrow) in pons, medulla, and cervical spinal cord, widening of atlantodental interval (shown by thin white line) suggestive of atlantoaxial dislocation; (D) Sagittal T2W MRI image of cervical spine showing T2 hypointense extra-axial hematoma (shown by thin white arrow) at base of skull impinging upon medulla oblongata with T2 hyperintensity representing edema (shown by thick white arrow) in pons, medulla, and cervical spinal cord extending up to C5–C6 intervertebral disc level; (E) Axial T2W MRI image at the level of C2 vertebra showing extra-axial hematoma (shown by thin white arrow); (F) Axial T2W MRI image at the level of pons showing diffuse intramedullary T2 hyperintensity representing edema (shown by thin white arrow); (G) Axial SWI phase image showing significant blooming at the level of C2 vertebra representing hemorrhage (shown by thin white arrow)