**Not all Weakness is Stroke: Acute Traumatic Central Cord Syndrome as a Stroke Mimic**

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**Introduction**

Acute weakness is the most common presentation in neurological emergencies. History of trauma prior to the onset of weakness is important to differentiate the underlying pathology and subsequent management.

**Case Description**

A 50-years-old gentleman presented to emergency department post slipped and fall on supine position with complaints of bilateral upper limb and lower limb weakness. Initial examination reveals bilateral upper limbs power (3/5 strength), lower limbs: right (2/5), left (3/5) and subsequently regained strength to (4/5) both sides. Stroke protocol was activated but subsequently deactivated by neuromedical team due to history of trauma. Computed Tomography (CT) brain and cervical reported to have no intracranial bleed nor spinal fracture. He was admitted for Magnetic resonance imaging (MRI) cervical which revealed focal spinal oedema at level of C3/C4 with cervical spondylosis with posterior disc bulge and ossification of posterior longitudinal ligament (OPLL) causing spinal canal stenosis. Cervical collar was kept and started on oral Dexamethasone. He showed clinical improvement and was subsequently able to return to his baseline functional level.

**Discussion**

Spinal cord lesion is one of the lesser-known stroke mimics. Acute Traumatic Central cord syndrome (ATCCS) is a form of incomplete spinal cord injury (SCI). Frequently upper extremity strength is more affected compare to lower extremity1. Most of ATCCS results from hyperextension injury in a background pre-existing canal stenosis. A nationwide survey in Japan revealed that SCI is most prevalent among patients in their 70s, with cervical SCI (CSCI) without bone injury accounted for 70.7% of all CSCI cases resulting from minimal trauma2. Pre-existing factors like OPLL and stenosis has been found to be significantly higher in CSCI without bone injury that those with bone injury3. Management should begin at site of accident by proper triage and stabilizing neck with hard cervical orthosis. The presence of instability and deteriorating neurology have been absolute indications for surgery. Use of steroids remains controversial4

**Conclusion**

History of trauma prior to symptoms is crucial. Elderly patients with bilaterally neurological deficit even after a minor fall should raise suspicion of SCI despite a normal CT report.

**Keywords**

Spinal Cord Injury, Stroke Mimic

**References**

1. [Husain Shakil](https://pubmed.ncbi.nlm.nih.gov/?term=Shakil%20H%5BAuthor%5D),[Carlo Santaguida](https://pubmed.ncbi.nlm.nih.gov/?term=Santaguida%20C%5BAuthor%5D),[Jefferson R. Wilson](https://pubmed.ncbi.nlm.nih.gov/?term=Wilson%20JR%5BAuthor%5D),[H. Francis Farhadi](https://pubmed.ncbi.nlm.nih.gov/?term=Farhadi%20HF%5BAuthor%5D),[Allan D. Levi](https://pubmed.ncbi.nlm.nih.gov/?term=Levi%20AD%5BAuthor%5D),and [Jared T. Wilcox](https://pubmed.ncbi.nlm.nih.gov/?term=Wilcox%20JT%5BAuthor%5D),Pathophysiology and surgical decision-making in central cord syndrome and degenerative cervical myelopathy: correcting the somatotopic fallacy [Front Neurol.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10690824/) 2023; 14: 1276399 doi: [10.3389/fneur.2023.1276399](https://doi.org/10.3389%2Ffneur.2023.1276399)
2. Miyakoshi, N.; Suda, K.; Kudo, D.; Sakai, H.; Nakagawa, Y.; Mikami, Y.; Suzuki, S.; Tokioka, T.; Tokuhiro, A.; Takei, H.; et al. A Nationwide Survey on the Incidence and Characteristics of Traumatic Spinal Cord Injury in Japan in 2018. *Spinal Cord* **2021**, *59*, 626–634.
3. Nakajima, H.; Yokogawa, N.; Sasagawa, T.; Ando, K.; Segi, N.; Watanabe, K.; Nori, S.; Watanabe, S.; Honjoh, K.; Funayama, T.; et al. Prognostic Factors for Cervical Spinal Cord Injury without Major Bone Injury in Elderly Patients. *J. Neurotrauma* **2022**, *39*, 658–666.
4. Chhabra, Harvinder S.; Jagadeesh, Nirdesh H.; Bansal, Kuldeep; Yelamarthy, Phani K.1 Diagnosis and Management of Acute Traumatic Central Cord SyndromePresent Consensus and Narrative Review. Indian Spine Journal 5(1):p39-46, Jan-Jun **2022** | DOI: 10.4103/ISJ\_40\_21