

Post-traumatic central cord syndrome with bilateral multilevel cervical cord involvement, pure motor component

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1. Introduction

Spinal cord injury post-trauma remains as one of the life devastating injuries with multiple complications. Central cord syndrome characterized by greater motor impairment in upper limbs compared to lower limbs, a variable degree of sensory loss below the injury level and bladder dysfunction. In the emergency setting, it is important to identify the signs and symptoms, subsequently, start the immediate treatment to reduce the morbidity in the patient.

2. Case Report

A case of post-traumatic injury in a 47-year-old man with no comorbid, he presented with bilateral upper limbs motor weakness from C5-T1 with no lower limbs weakness. He had pure motor involvement with intact sensation. No cervical and spinal tenderness. No bladder dysfunction. He was suspected to have central cord syndrome. Early magnetic resonance imaging of spine aided in the diagnosis. There was multilevel cervical spondylosis with spinal canal stenosis at C3/C4, C4/C5 and C5/C6 with bilateral C6 nerve roots impingement. C4/C5 and C5/C6 spinal canal space were narrowed to 0.6 cm and 0.7 cm respectively. No spinal cord oedema or haemorrhage. He was started on steroid therapy with no surgical intervention. He had a satisfactory recovery upon discharge with quality of life.

3. Discussion

Conservative or surgical treatment which also included timing of decompressive surgery remains a debatable situation. Majority patients improve over time with conservative therapy (1). Younger patients have a better outcome (2). Aito S Et al. concluded that surgery does not affect the outcome (3). However, some authors suggested that the timing of surgery within 24 hours improve the outcome (4,5). Whereas others claimed the timing of surgery does not affect the outcome (6-8).

4. Conclusion

A high index of suspicious was required even in a patient with no cervical and spinal tenderness. Patient management largely depends on the local setting and available expertise.

References:

1. L. NM, K. SP, D. FR. The long-term outcome after central cord syndrome. *The Journal of Bone and Joint Surgery British volume*. 2000;82-B(6):851-5.
2. Lenehan B, Street J, O'Toole P, Siddiqui A, Poynton A. Central cord syndrome in Ireland: the effect of age on clinical outcome. *European Spine Journal*. 2009;18(10):1458-63.
3. Aito S, D'Andrea M, Werhagen L, Farsetti L, Cappelli S, Bandini B, et al. Neurological and functional outcome in traumatic central cord syndrome. *Spinal Cord*. 2006;45:292.
4. Lenehan B, Fisher CG, Vaccaro A, Fehlings M, Aarabi B, Dvorak MF. The Urgency of Surgical Decompression in Acute Central Cord Injuries With Spondylosis and Without Instability. *Spine*. 2010;35(21S):S180-S6.
5. Fehlings MG, Tetreault LA, Wilson JR, Aarabi B, Anderson P, Arnold PM, et al. A clinical practice guideline for the management of patients with acute spinal cord injury and central cord syndrome: recommendations on the timing (≤ 24 hours versus > 24 hours) of decompressive surgery. *Global spine journal*. 2017;7(3_suppl):195S-202S.
6. Anderson DG, Sayadipour A, Limthongkul W, Martin ND, Vaccaro A, Harrop JS. Traumatic central cord syndrome: neurologic recovery after surgical management. *Am J Orthop (Belle Mead NJ)*. 2012;41(8):E104-8.
7. Aarabi B, Hadley MN, Dhall SS, Gelb DE, Hurlbert RJ, Rozzelle CJ, et al. Management of Acute Traumatic Central Cord Syndrome (ATCCS). *Neurosurgery*. 2013;72(suppl_3):195-204.
8. Chen L, Yang H, Yang T, Xu Y, Bao Z, Tang T. Effectiveness of surgical treatment for traumatic central cord syndrome. *Journal of Neurosurgery: Spine*. 2009;10(1):3-8.

