Key points

[Traumatic central cord syndrome, Management, Timing of surgery, Prognosis, Position statement]

1. Acute traumatic central cord syndrome can be seen associated with or without bony and ligamentous injuries on which the management depend upon.

2. The purpose of this manuscript is to describe the prognostic factors of ATCCS and to discuss how its management has evolved over the last few decades and to provide evidence based recommendations and a consensus on the management of ATCCS
Surgical versus conservative treatment in ATCCS: Timing of surgery did not affect neurological outcome. Early surgery has better outcomes in patients with ATCCS. Delayed surgery has less mortality in patients with ATCCS.

Level 4/5 evidence
Level 3 evidence

Number of studies
Take Home Messages

1. The outcome of ATCCS depends on various factors like age of the patient, initial neurological deficit, sagittal diameter of the cervical spinal canal, signal changes on MRI and ongoing compression of spinal cord.

2. There is reasonable evidence that patients with ATCCS secondary to vertebral fracture, dislocation, traumatic disc herniation or instability have better outcome with an early surgery (<24 hrs.).

3. Patients with ATCCS secondary to an extension injury in a stenotic canal without fracture/dislocation/instability/disc herniation can be given the options to undergo either early surgery {especially in selected cases with substantial neurological deficit (AIS C) in the presence of ongoing cord compression} or an initial conservative management followed by surgery at a later date, if there is a neurological deterioration or a plateau of neurological recovery.

4. There is a need for high quality prospective randomized controlled trials to resolve the controversy between conservative management versus early surgery versus delayed surgery in patients of ATCCS secondary to extension injury in a stenotic cervical canal without fracture/fracture-dislocation/traumatic disc herniation/instability.

5. Till such time, the decision on surgery and its timing should be left to the judgment of the physician, deliberating on the pros and cons relevant to the particular patient and involving the well informed patient and relatives in the decision making.