OBJECTIVE

- Investigate the ongoing discourse on the management of Central Cord Syndrome (CCS) by examining the roles of conservative and surgical interventions.

INTRODUCTION

- Debate exists amongst clinicians regarding the best management technique for CCS due to its complexity.
- The central focus of prior studies has focused on either conservative or surgical management, rather than a comparative analysis of both.
- Raises questions about outcome differences and associated risks among intervention methods.

METHODS

- Articles Identified Through Database Search n = 5681
- Articles Identified Through Other Sources n = 0
- Total Articles Identified Including Eligibility Criteria n = 581
  - Total Articles Included with Initial Inclusion Criteria n = 110
  - Duplicates Excluded n = 16
  - Total Articles Screened n = 94
  - Total Articles Included From Eligibility n = 57
  - Total Articles Included in Final Analysis n = 37

RESULTS

- CCS Outcome Presentation (%) N (%) or mean ± SD
  - Age (99): 51.9 ± 16.4 years
  - Sex (99): M: 79 (98.6%), F: 20 (25.2%)
  - Cause of CCS (%): MVC: 31 (31.3%), Fall: 40 (40.4%), Others: 18 (18.2%)
- CCS Treatment Outcomes (%) N (%) or mean ± SD
  - Time from Injury to Treatment: 6.4 ± 9.9 days
  - Management: Surgical: 53.5%
  - Surgical Treatment: Surgical Decompression: 59 (67.0%)
  - Upper Extremity Motor Deficits: 94.1% vs. 20.2%
  - Lower Extremity Motor Deficits: 37.4% vs. 6.1%
  - Symptom Free: 24 (30.8%)
  - Death (99): 2 (20.2%)

Table 1. Summary of patient demographics, management, and neurologic outcome for all case reports included in the systematic review.

- 37 articles encompassing 99 cases of adult CCS: 79 males and 20 females.
- Conservative management more prevalent in CCS due to:
  - Sports trauma (35.3% vs. 12.3%, p=0.0000)
  - Patients with upper extremity motor deficits (94.1% vs. 50.8%, p<0.01)
  - Pain symptoms (52.9% vs. 21%, p<0.05);
- Predictors of surgical intervention:
  - >24 hours post-injury (p<0.001, OR: 17.18, 95% CI: 3.00-182.81)
  - Spondylosis (p<0.01, OR: 8.84, 95% CI: 1.82-86.09)
- Surgical intervention less likely with increased patient age (p<0.01, OR: 0.96, 95% CI: 0.93-0.98);
- Predictors of conservative management:
  - CCS due to sports trauma (p<0.001, OR: 0.03, 95% CI: 0.00-0.29)
  - No statistically significant difference in improvements between surgical and conservative management (87.7% vs. 100%, p=0.2765).

CONCLUSION

- The method of intervention, or combination, does not significantly impact patient outcomes.
- Early surgical intervention within 24 hours of injury does not appear to be superior to conservative management with possible deferred operation.

REFERENCES


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