

Characteristics and Outcomes of Traumatic Spine Injury in Sub-Saharan Africa

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Introduction

Traumatic spinal cord injury (SCI) is a relatively rare but devastating consequence of trauma, which affects an estimated 23 per 1 million people globally. Because an estimated 90% of the global trauma-related mortality occurs in low- and middle-income countries (LMICs), SCI is likely similarly disproportionate; however, studies on the incidence of SCI in LMICs are limited. We therefore sought to characterize spinal column and cord injury in our sub-Saharan African tertiary care center.

Figure 1

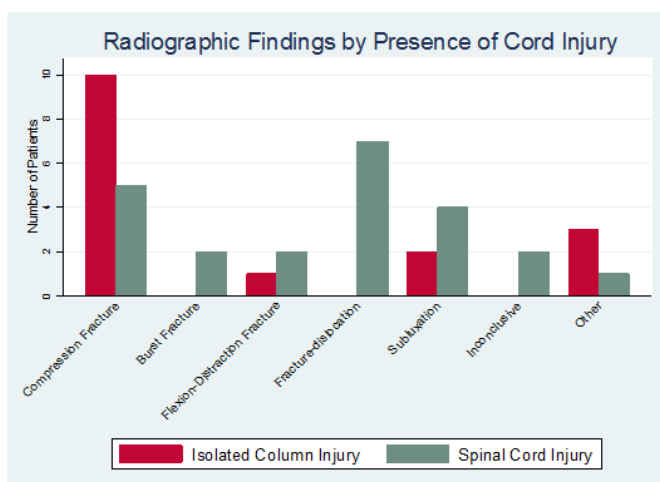


Figure 1

Radiographic Findings in Spinal Column vs Spinal Cord Injury

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Table 1

Patient Characteristics	n=42
Age	34.4±15.7
Male Sex	33 (78.6%)
Injury Etiology	
RTA	14 (33.3%)
Assault	3 (7.1%)
Fall	21 (50.0%)
Other	4 (9.5%)
ASIA Score	
A/Complete	12 (28.6%)
B/Sensory Incomplete	2 (4.8%)
C/Motor Incomplete	4 (9.5%)
D/Motor Incomplete	8 (19.1%)
E/Normal	16 (38.1%)
Other Injuries	
None	33 (78.6%)
Chest	2 (4.8%)
Abdomen	1 (2.4%)
Extremities	5 (11.9%)
Other	1 (2.4%)

Table 1: Patient Characteristics

Methods

This is a retrospective review of prospectively collected data from Kamuzu Central Hospital, a tertiary care center serving 6 million people in the capital of Malawi. All patients admitted from October 2016 through February 2017 with a trauma-related mechanism of injury and a neurological deficit attributable to spinal cord injury or radiographic evidence of spinal column trauma were included. Patients that were treated as outpatients or were dead on arrival were excluded.

Results

- 42 patients met inclusion criteria (Table 1).
- 61.9% had spinal cord injuries.
- The most common mechanism of injury was fall (50.0%), most often with a head load.
- The mean time from injury to presentation was 2.9±7.8 days.
- Cervical spinal cord injuries were the most common (58.3%).
- The most common (46.2%) American Spinal Injury Association Score among patients with spinal cord injury was A (Complete Impairment).
- Radiographs most commonly showed compression fractures (40.5%), fracture-dislocations (16.7%) and subluxations (16.7%).
- Mortality was 12.8%, and all patients who died had complete cervical spinal cord injuries.
- 58.8% of patients who survived to discharge had a good recovery on the Glasgow Outcome Scale, while 29.4% had moderate disability, and 11.8% had severe disability.

Conclusions

Traumatic spinal cord injury causes devastating morbidity and mortality. Due to the etiology, high mortality and relative lack of operative facilities, primary prevention of these types of injuries is the most effective way to attenuate SCI-related morbidity and mortality.

References

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