



ARE SPINE INJURIES SUSTAINED IN BATTLE TRULY DIFFERENT?

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Source

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Abstract

BACKGROUND CONTEXT:

The severity and prognosis of combat-related injuries to the spine and spine injuries sustained unrelated to direct combat have not been previously compared. Differences may have implications on tactics, treatment strategies, and directions for future research.

PURPOSE:

Compare the severity and prognosis of battle and nonbattle injuries to the spine.

STUDY DESIGN:

Retrospective study.

PATIENT SAMPLE:

American military personnel who were injured in a combat zone and whose medical data were abstracted in the Joint Theater Trauma Registry (JTTR).

METHODS:

The JTTR was queried using International Statistical Classification of Diseases, Ninth Revision codes to identify all individuals who sustained battle and nonbattle injuries to the neck, back, spinal column, or spinal cord in Operation Iraqi Freedom or Operation Enduring Freedom from October 2001 to December 2009. Medical records of all identified servicemembers were individually reviewed. Demographic information, including sex, age, military rank, date of injury, and final disposition, was obtained for all patients. Spinal injuries were categorized according to anatomic location, associated neurologic involvement, precipitating mechanism of injury (MOI), and concomitant wounds. These data points were compared for the groups battle spine injuries (BSIs) and nonbattle spine injuries (NBSIs).

RESULTS:

Five hundred two servicemembers sustained a total of 1,834 battle injuries to the spinal column, including 1,687 fractures (92%), compared with 92 servicemembers sustaining 267 nonbattle spinal column injuries, with 241 (90%) fractures. Ninety-one BSI servicemembers (18% of patients) sustained spinal cord injuries (SCIs) with 41 (45%) complete SCIs, compared with 13 (14% of patients) nonbattle SCIs with six (46.2%) complete injuries ($p=.92$). The reported MOI for 335 BSI servicemembers (66.7%) was an explosion compared with one NBSI explosive injury. Eighty-four patients (17%) sustained gunshot wounds (GSWs) in battle compared with five (5.2%) nonbattle GSWs. Fifteen patients (3.0%) sustained a battle-related fall compared with 29 (30%) nonbattle-related falls. Battle spine injury servicemembers underwent significantly higher rates of surgical interventions ($p<.0001$), were injured by high-energy injury mechanisms at a significantly greater rate ($p<.0001$), and demonstrated a trend toward lower neurologic recovery rates after SCI ($p=.16$).

CONCLUSIONS:

Battle spine injury and NBSI are separate entities that may ultimately have disparate long-term prognoses. Nonbattle spine injury patients, although having similar MOIs compared with civilian spinal trauma, maintain a different patient demographic. Further research must be directed at accurately quantifying the long-term disabilities of all spine injuries sustained in a combat theater, whether they are the result of battle or not.



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