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Management Of Thoracolumbar Vertebral Body Fractures And Outcome.

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ABSTRACT

Traumatic fractures of the spine are most common at the thoracolumbar junction and can be a source of great disability. To review the most current information regarding the pathophysiology, injury pattern, treatment options, and outcomes. This research work was carried in our department in last one year. We conducted 20 cases and analysed and review their results. The thoracolumbar spine represents a unique system from a skeletal as well as neurological standpoint. The rigid rib-bearing thoracic spine articulates with the more mobile lumbar spine at the thoracolumbar junction (T10 - L2), the site of most fractures. Thoracolumbar spine fractures remain a significant source of potential morbidity. Advances in treatment have minimized the invasiveness of our surgery and in certain stable situations, eliminated it all together.

Keywords: Fracture; Fracture-dislocation; Fusion

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INTRODUCTION

Traumatic fractures of the spine are most common at the thoracolumbar junction and can be a source of great disability. Traumatic spinal cord injury (SCI) has a high prevalence. The thoracolumbar junction is a point of high kinetic energy transfer and often results in thoracolumbar fractures. New classification systems for thoracolumbar spine fractures are being developed in an attempt to standardize evaluation, diagnosis, and treatment as well as reporting in the literature. Earlier classifications such as the Denis "3-column model" emphasized anatomic divisions to guide surgical planning. More modern classification systems such as the thoracolumbar injury classification system (TLICS) emphasize initial neurologic status and structural integrity of the posterior ligamentous complex as a guide for surgical decision making and have demonstrated a high intra- and interobserver reliability. Other systems such as the Load-Sharing Classification aid as a useful tool in planning the extent of instrumentation and fusion.

METHODOLOGY

This research work was carried in our department in last one year. We conducted 20 cases and analysed and review their results.

RESULTS

The thoracolumbar spine represents a unique system from a skeletal as well as neurological standpoint. The rigid rib-bearing thoracic spine articulates with the more mobile lumbar spine at the thoracolumbar junction (T10 - L2), the site of most fractures. A complete examination includes a careful neurologic examination of both motor and sensory systems. CT scans best describe bony detail while MRI is most efficient at describing soft tissues and neurological structures. The most recent classification system is that of the new Thoracolumbar Injury Classification and Severity Score. The different fracture types include compression fractures, burst fractures - both stable and unstable -, flexion-distraction injuries and fracture dislocations. Their treatment, both operative and non-operative depends on the degree of bony compromise, neurological involvement, and the integrity of the posterior ligamentous complex. Minimally invasive approaches to the care of thoracolumbar injuries have become more popular, thus, the evidence regarding their efficacy is presented. Finally, the treatment of osteoporotic fractures of the thoracolumbar spine is reviewed, including vertebroplasty and kyphoplasty, their risks and controversies, and senile burst fractures, as well.

DISCUSSION

Traumatic spine injuries (TSIs) carry significantly high risks of morbidity, mortality, and exorbitant health care costs from associated medical needs following injury. For these reasons, TSI was chosen as an ENLS protocol. This article offers a comprehensive review on the management of spinal column injuries using the best available evidence. Though the review focuses primarily on cervical spinal column injuries, thoracolumbar injuries are briefly discussed as well. The initial emergency department (ED) clinical evaluation of possible spinal fractures and cord injuries, along with the definitive early management of confirmed injuries, are also covered.

Computed tomography (CT) scan imaging of the bony spine has advanced with helical and currently multidetector images to allow reformatted axial collimation of images into two-dimensional and three-dimensional images. As a result, bony injuries to the TLS are commonly being identified. Most blunt trauma patients require CT to screen for other injuries. This has allowed the single admitting series of CT scans to also include screening for bony spine injuries. However, all of the publications fail to clearly define the criteria used to decide who gets radiographs or CT scans. No study has carefully conducted long-term follow-up on all of their trauma patients to identify all cases of TLS injury missed in the acute setting [1-8].

CONCLUSIONS

Thoracolumbar spine fractures remain a significant source of potential morbidity. Advances in treatment have minimized the invasiveness of our surgery and in certain stable situations, eliminated it all together.

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