

Short Communication

Immediate and Long-Term Degenerative Disc Injuries on MRI in Magerl Thoracolumbar Fractures: Analysis of 76 Fractures and 138 Discs

Marie-Hardy L*, Barut N, Bonaccorsi R, Khalifé M and Pascal-Moussellard H

Department of Orthopedic Surgery and Trauma Center, Pitié-Salpêtrière Teaching Hospital, Paris

*Corresponding author: Marie-Hardy L, Orthopedic Surgery and Trauma Center, Pitié-Salpêtrière Teaching Hospital, Paris

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Abstract

Although type thoracolumbar fractures are the most frequent spinal fractures, the management varies from conservative treatment to discectomy and fusion. However, the preservation of mobility of the adjacent discs should be a major issue. If Magerl defined the type A fracture as a strictly bone injury, several authors suggested associated disc lesions. But their results are contrasted, and no study clarified this point. This study was conducted to analyze the presence of immediate post-traumatic disc injuries and to know if discs degenerate after receiving treatment.

Keywords: Thoracolumbar fractures; Intervertebral disc; Outcomes; MRI; Degeneration

Methods

We retrospectively reviewed 54 patient files with a type A fracture and having a post-traumatic MRI, corresponding to 76 fractures and 138 discs. All patients had a second MRI with an average delay of 32.4 months. Based on the Oner's classification of disc injuries, two observers analyzed the type of lesion in the discs adjacent to the fractured vertebra in immediate post-trauma and on the MRI at last follow-up.

Results

The immediate post-traumatic analysis for cranial adjacent discs revealed 81% of normal discs (type 1), no (type 2), 7% of (type 3)

and 4% of (type 4), 7% of (type 5) and 1% of (type 6). The analysis for caudal adjacent discs found 97% of (type 1). The analysis on these second MRI revealed that only 15% of cranial and 9% of caudal adjacent discs were (type 2 or 6) at the last analysis.

Conclusion

The great majority of type A fractures does not cause immediate disc injuries and only 15% of cranial discs degenerate at last follow-up.

Level of proof: IV (grade C).