Case report

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Clinical observation of a female adolescent who sustained compression fracture of Th_{12} vertebral body twice (case report)

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The authors presented a case of surgical treatment of a 16-year-old female patient who sustained a refracture of Th_{12} vertebral body eight years after conservative treatment of the same vertebra.
Keywords: female adolescent, vertebra, refracture, treatment

INTRODUCTION

Multiple fractures of vertebral body in children and adolescents are widely reported in current medical literature [1–6]. Single publications describe cases of vertebral body repeated fracture that was previously repaired [7]. Our 5-year experience of dynamic observations and treatment of 422 injuries in patients aged from 3 to 18 years included 6 (1.42 %) cases of vertebral body repeated fracture, with compression occurred at different levels [8]. No reports regarding double compression of the same vertebral body in somatically healthy children could be found in literature. We present a clinical case of a female adolescent treated and followed at our hospital.

DISCUSSION

A 16-year-old female patient E. presented with pains in the lower thoracic and lumbar spine after a fall from a two-story window. Her history included a compression uncomplicated fracture of Th_{12} vertebra treated conservatively 8 years ago (**Fig.** 1).

On admission the patient was seen by a trauma and orthopaedic surgeon, neurosurgeon, surgeon, pediatrician and psychiatrist. Compression uncomplicated Th_{11}, Th_{12}, L_1 vertebral body fractures and injured adjacent intervertebral discs were identified with clinical and imaging assessments including conventional radiography, computed tomography and magnetic resonance imaging. All vertebral body fractures were classified as AO/ASIF type A [9], with A1 subtype in compression of Th_{11} and L_1 vertebra, and A3 for Th_{12} (**Fig. 2**).

Surgery was performed 3 days after the injury. Transpedicular spondylodesis was produced at level Th_{11}-L_1 considering severity of the injury (**Fig. 3**).

Fig. 1 Radiographic AP and lateral views of lower thoracic and lumbar spine in a female patient E. 8 years ago showing compression fracture of Th12 vertebra

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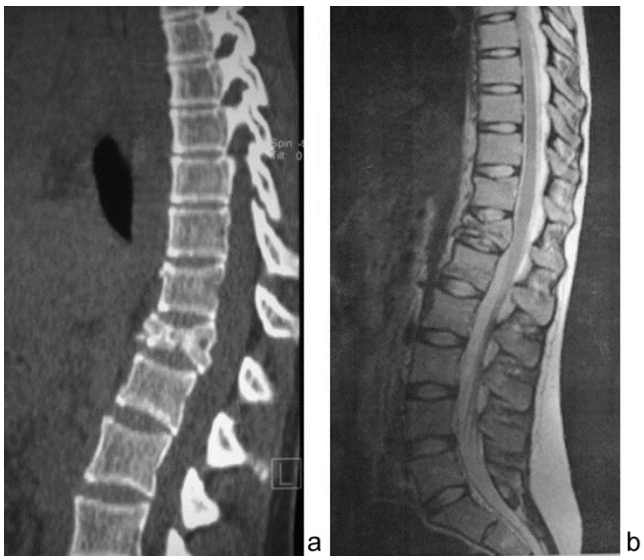

Fig. 2 Preoperative CT scan (a) and MRI scan (b) of thoracolumbar spine of the female patient E.

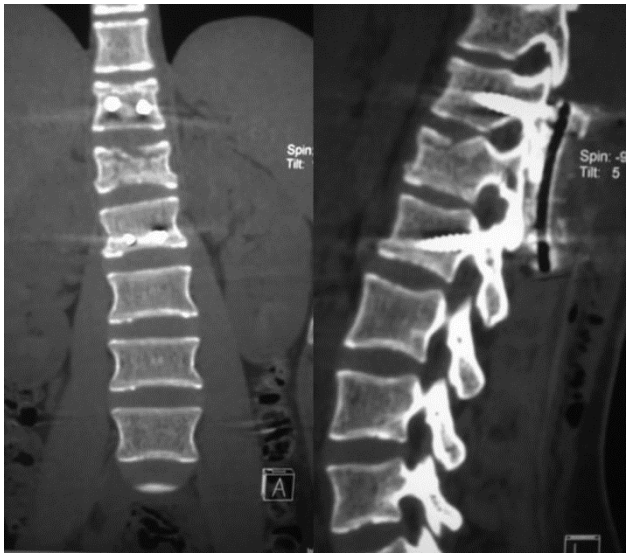

Fig. 3 Postoperative CT scan of the spine of the female patient E.

Screws were inserted in arches of Th_{11} и L_1 vertebrae and closed manual reduction of Th_{12} produced to be followed by placement of contouring rods at the screw heads and distraction.

CONCLUSION

Diagnosis and treatment of a refracture of the same vertebral body is relatively unknown to pediatric orthopaedic community. An age of primary injury and outcomes of therapeutic measures play an important role in determining treatment tactics. If a child sustains a repeated fracture of the same vertebra over a one-year time frame following the first injury the fracture must be considered as a recent injury instead of a refracture. Treatment tactics should be determined with regard to the type and severity of the repeated injury.

The clinical case showed satisfactory result of the operative treatment due to adequate reduction of the broken Th_{12} vertebra.

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