

# Aggressive Vertebral Hemangioma Causing Acute Spinal Cord Compression

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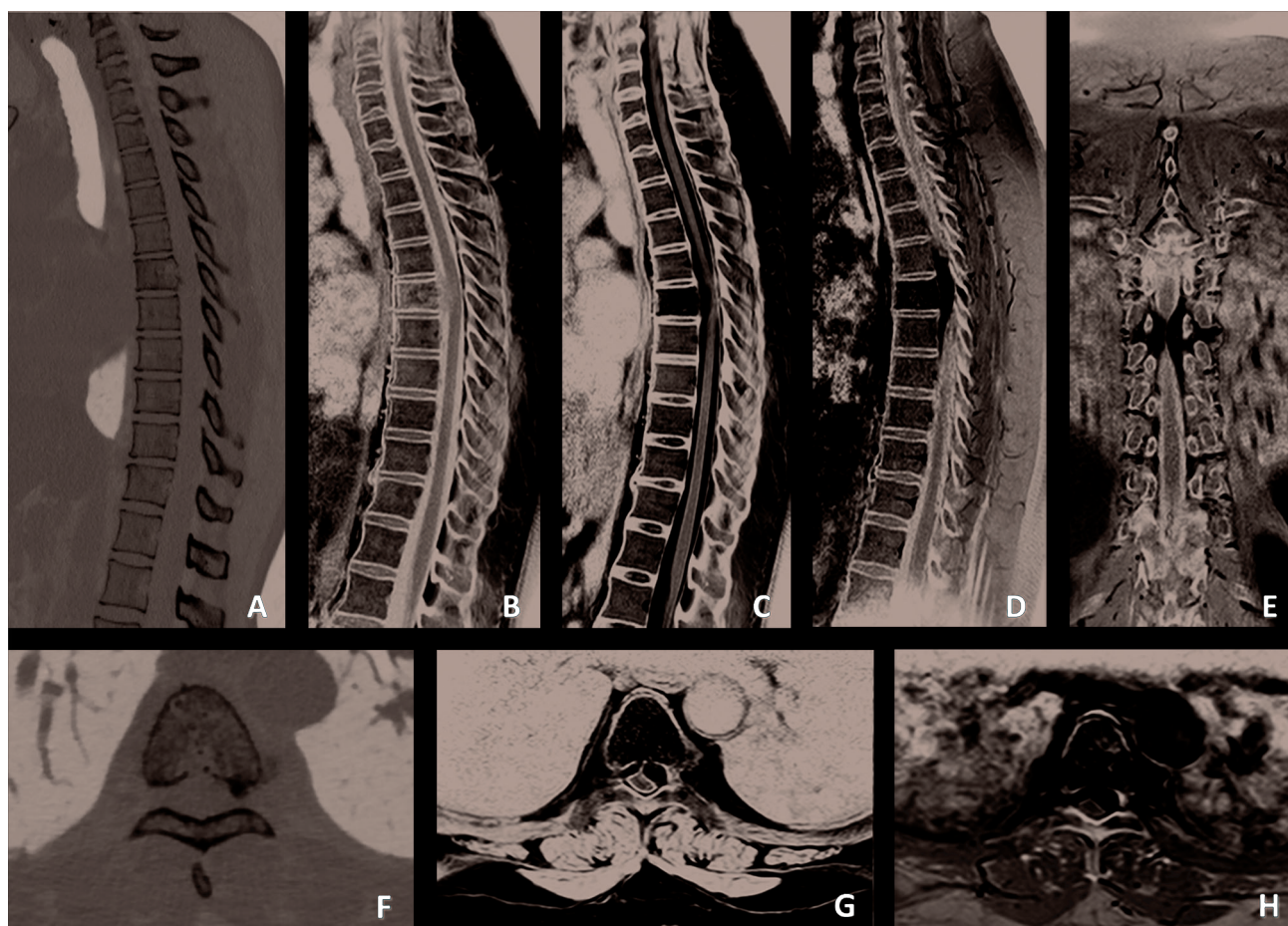
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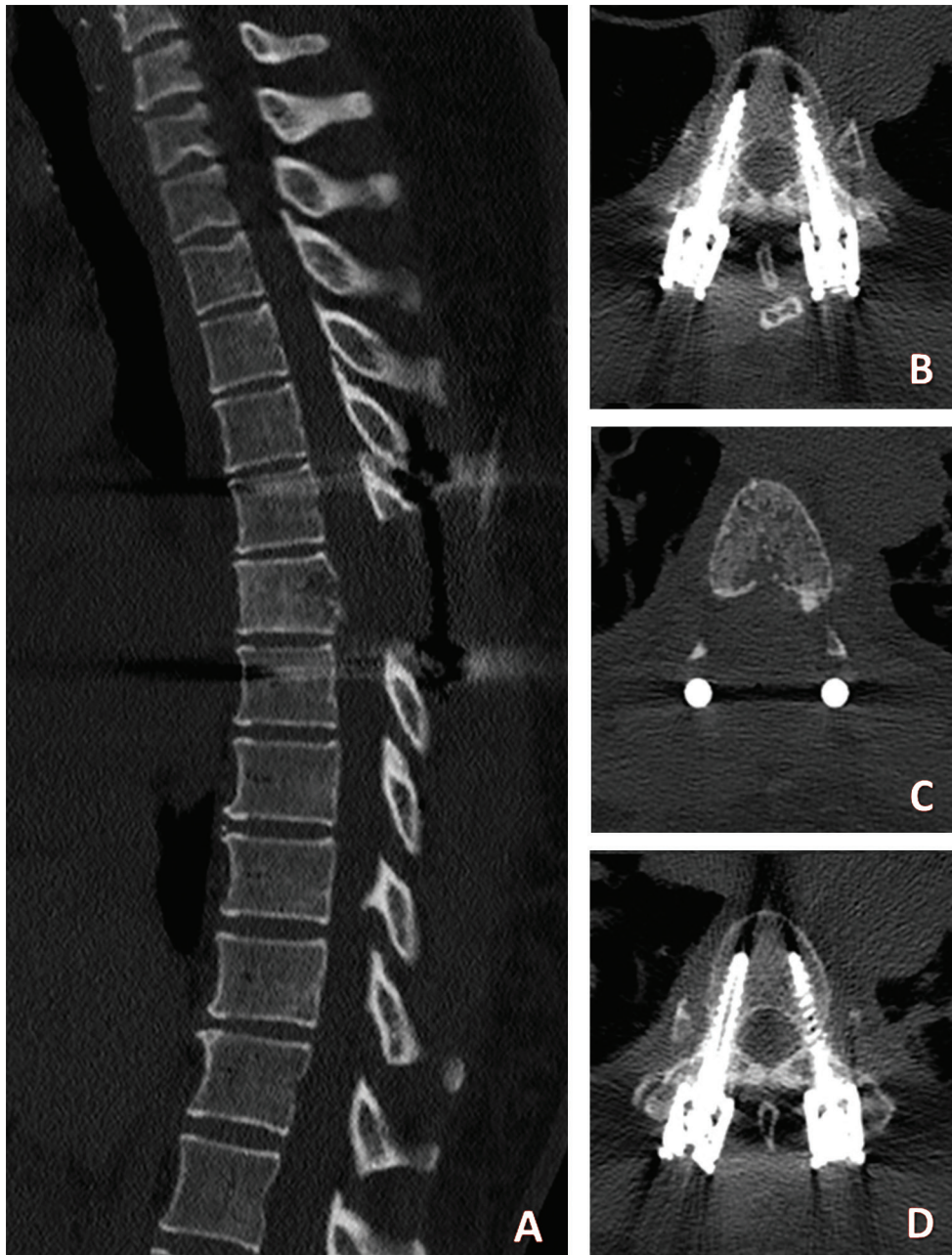
A 46-year-old woman presented to our emergency department with sudden onset of lower extremity weakness after physical activity. She referred only dorsal back pain before these symptoms. Neurologic examination revealed weakness (½) of lower limbs, hyperreflexia of deep tendon reflex of lower limbs, hypoesthesia under D7 level, and no sphincteric dysfunction. A computed tomography scan showed an

accentuation of trabecular markings within the vertebral body and areas of lysis (►Figs. 1A and F). Contrast-enhanced magnetic resonance images show diffuse abnormal marrow signal throughout the T6 vertebral body with epidural components with spinal cord compression (►Fig. 1B–H).

She underwent surgery on the same day through a mini-open decompression and percutaneous short posterior



**Fig. 1** Sagittal (A) and axial (F) computed tomography images demonstrating accentuation of trabecular markings within the vertebral body and areas of lysis involving the entire T6 vertebral body. Sagittal T1-weighted (B); sagittal (C) and axial (G) T2-weighted; sagittal (D), coronal (E), and axial (H) contrast-enhanced magnetic resonance images showing a T6 aggressive hemangioma with epidural extension and severe anterior cord compression.



**Fig. 2** Sagittal (A) and axial (B–D) postoperative computed tomography images demonstrating the posterior decompression and short pedicle screw fixation.

fixation (►Fig. 2). No complications occurred after surgery with full recovery of neurological symptoms. Radiotherapy was performed after 4 weeks with resolution of dorsal back pain.

Vertebral hemangiomas (VH) are benign and generally asymptomatic primary vascular tumors of bone.<sup>1,2</sup> Rarely, these lesions can cause symptoms due to cord compression as a result of bone expansion, erosion through cortex, fracture, or hematoma.<sup>3</sup> Despite our long-standing recognition of aggressive VH, there is still a controversy regarding the optimal treatment strategy, and numerous therapeutic options have been described: embolization, surgery, radiotherapy, vertebroplasty, or a combination of them.<sup>4-9</sup>

#### Funding

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#### Conflict of Interest

None declared.

#### References

- 1 Enneking WF. A system of staging musculoskeletal neoplasms. *Clin Orthop Relat Res* 1986; ( 204):9–24
- 2 Friedman DP. Symptomatic vertebral hemangiomas: MR findings. *AJR Am J Roentgenol* 1996;167(2):359–364
- 3 Goldstein CL, Varga PP, Gokaslan ZL, et al. Spinal hemangiomas: results of surgical management for local recurrence and mortality in a multicenter study. *Spine* 2015;40(9):656–664

- 4 Guarnieri G, Ambrosanio G, Vassallo P, et al. Vertebroplasty as treatment of aggressive and symptomatic vertebral hemangiomas: up to 4 years of follow-up. *Neuroradiology* 2009;51(7):471–476
- 5 Jiang L, Liu XG, Yuan HS, et al. Diagnosis and treatment of vertebral hemangiomas with neurologic deficit: a report of 29 cases and literature review. *Spine J* 2014;14(6):944–954
- 6 Urrutia J, Postigo R, Larrondo R, Martin AS. Clinical and imaging findings in patients with aggressive spinal hemangioma requiring surgical treatment. *J Clin Neurosci* 2011;18(2):209–212
- 7 Raco A, Ciappetta P, Artico M, Salvati M, Guidetti G, Guglielmi G. Vertebral hemangiomas with cord compression: the role of embolization in five cases. *Surg Neurol* 1990;34(3):164–168
- 8 Smith TP, Koci T, Mehringer CM, et al. Transarterial embolization of vertebral hemangioma. *J Vasc Interv Radiol* 1993;4(5):681–685
- 9 Heyd R, Seegenschmiedt MH, Rades D, et al; German Cooperative Group on Radiotherapy for Benign Diseases. Radiotherapy for symptomatic vertebral hemangiomas: results of a multicenter study and literature review. *Int J Radiat Oncol Biol Phys* 2010;77(1):217–225