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Case Report

An intramedullary capillary hemangioma of the spine with an underlying plasmocytoma

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Abstract

BACKGROUND CONTEXT: In contrast to vertebral hemangiomas, which are very common within the general population, only 3% to 5% of patients with plasma cell dyscrasia show a single osteolytic bone lesion due to plasma cell infiltration without the evidence of generalized myeloma. The vast majority of these hemangiomas are completely asymptomatic and only discovered incidentally. In rare occasions, representing only 1% to 2% of the known lesions, a locally aggressive subtype can cause problems analogous to the ones triggered by a plasmocytoma, ranging from back pain to vertebral compression fractures to neurologic deficit, resulting from nerve root or spinal cord compression.

Both entities are extensively discussed in the literature, but finding both lesions in one is rare if not described for the first time.

PURPOSE: To advise colleagues that the differential diagnosis between benign and malignant vertebral tumors can be harder than expected and has to be definitely made to avoid severe consequences for the patient.

PATIENT SAMPLE: A 46-year-old healthy man presented to the emergency department with an acute onset of thoracic back pain after a trivial incident. Although his medical history included no known diseases and no history of back pain, plain X-rays raised the clear suspicion of a fracture of T6 that was verified in computed tomography scans.

OUTCOME MEASURES: Visual analog scale; neurologic status; tumor recurrence.

METHODS: The case of the patient was evaluated retrospectively according to standard procedures, clinical outcome, and in review of the literature.

RESULTS: Because there is still controversy about the best treatment (local radiation vs. operation vs. combination) of a solitary skeletal plasmocytoma, no gold standard has been established until now. Especially if a patient needs an emergency operation before all test results are obtained, each surgeon has to decide individually.

CONCLUSIONS: Capillary hemangiomas can hide underlying plasmocytomas, which might demand totally different treatment strategies. Although our patient did not match the common criteria for a solitary plasmocytoma, one has to discuss whether a stand-alone decompression and biopsy would have been the emergency treatment of choice. Such a strategy would have reduced the risk of tumor spreading and would have made radiotherapy easier, whereas on the other hand requiring a secondary stabilization procedure later on.

Keywords: Back pain; Plasmocytoma; Hemangioma; Vertebral; Treatment strategies

FDA device/drug status: Not applicable.

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Introduction

Although vertebral bodies are common locations for benign tumors or plasma cell diseases, such as multiple myeloma, only 3% to 5% of patients with plasma cell dyscrasia show a single osteolytic bone lesion due to plasma cell infiltration without the evidence of generalized myeloma [1,2]. Vertebral hemangiomas, in contrast, are very common, with an incidence of 10% to 12% within the general population as is reported from a large radiographic and autopsy series [3]. The vast majority of these hemangiomas are completely asymptomatic and only discovered incidentally. In rare occasions, representing only 1% to 2% of the known lesions, a locally aggressive subtype can cause problems analogous to the ones triggered by a plasmocytoma, ranging from back pain to vertebral compression fractures to neurologic deficit, resulting from nerve root or spinal cord compression [3–5]. We describe the unusual presentation of a solitary spinal plasma cell myeloma in an adolescent patient that was masked by an intramedullary capillary hemangioma.

Case report

A 46-year-old man presented to the emergency department with an acute onset of thoracic back pain after a trivial incident. Although his medical history included no known diseases and no history of back pain, plain X-rays (Fig. 1A) raised a clear suspicion of a fracture of T6 that was confirmed in a computed tomography (CT) scan (Fig. 1B).

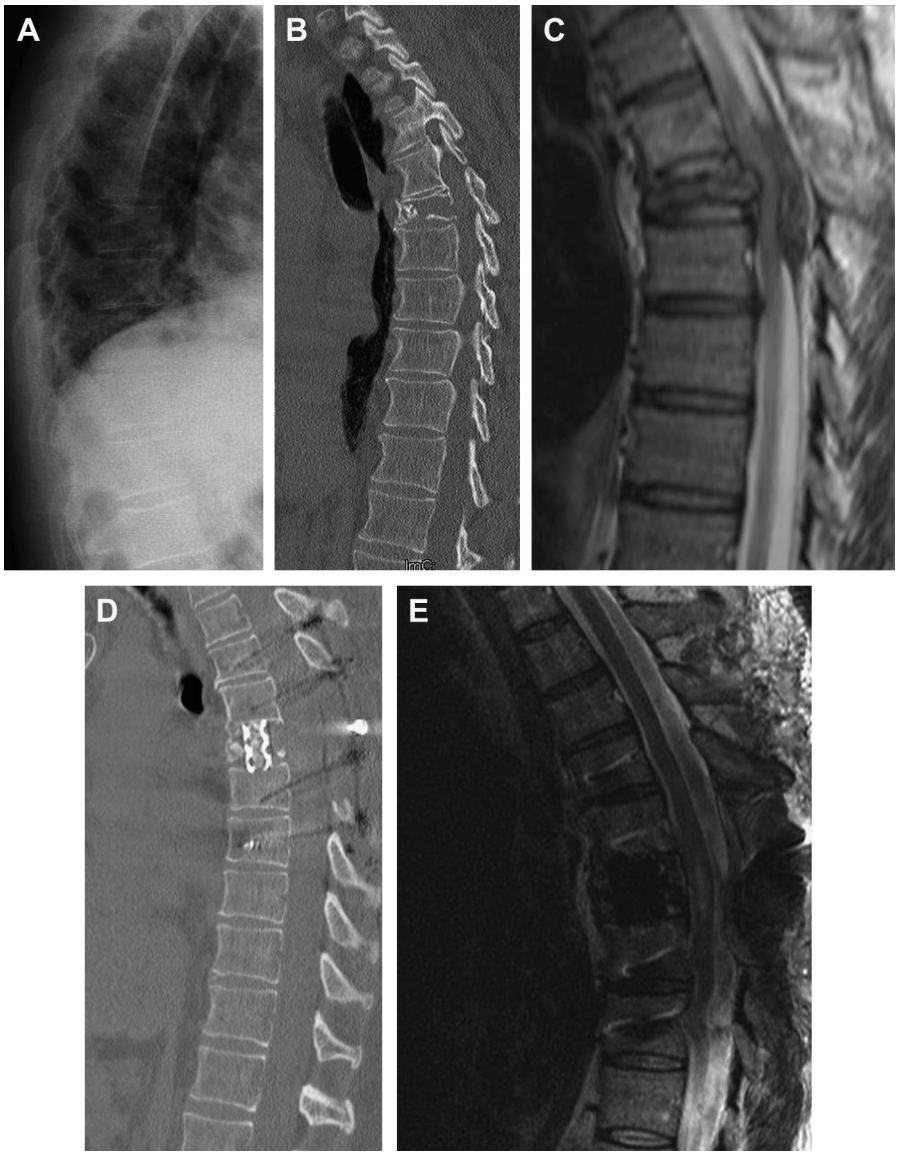

Fig. 1. (A) Plain X-rays raised suspicion of a fracture of T6. (B) Computed tomography (CT) confirmed the fracture of T6 suggesting a hemangioma. (C) Magnetic resonance imaging (MRI) demonstrated an extensive lesion within T6 with intrusion into the spinal canal, spinal cord compression with beginning cord edema. (D and E) Control CT scans and MRI showed no evidence of hematoma or myelon compression but a progressive spinal cord edema.