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Case report

MRI of hemangioblastoma in the conus medullaris

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Abstract

Hemangioblastoma of the conus medullaris with MRI has not been reported before. A 75-year-old man had a history of falling due to weakness of his left lower limb. MRI revealed a well-defined oval mass in the conus medullaris. The tumor had an isointense signal relative to spinal cord on T1-weighted images, hyperintense signal areas intermixed with punctate spots of hypointensity on T2-weighted images, and heterogeneous obvious enhancement on gadolinium-enhanced T1-weighted images. Associated abnormally tortuous vessels were noted in the dura proximal to the tumor. Histological findings were compatible with the diagnosis of hemangioblastoma. Hemangioblastoma should be included in the differential diagnosis in patients with an enhancing tumor and adjacent engorged vessels of the spinal cord.

Keywords: Conus medullaris; Hemangioblastoma; Magnetic resonance imaging (MRI); Spinal cord tumors

1. Introduction

Hemangioblastomas are benign vascular tumors that may arise throughout the neuraxis. The tumors most commonly occur in the cerebellum [1]. Spinal cord hemangioblastoma is uncommon, comprising 1.6–5.8% of all spinal cord tumors and associated with Von Hippel Lindau syndrome in an estimated 32% [2]. Isolated hemangioblastomas of the spinal cord, especially of the lumbosacral region, are extremely rare [3]. One report suggested that the total number of all reported cases of hemangioblastoma of the cauda equina may be as low as 40, with few of these tumors having a demonstrated MRI appearance [4]. To our knowledge, hemangioblastoma of the conus medullaris with MRI has not been reported before.

We herein present a case of a 75-year-old man with MRI findings of an isolated hemangioblastoma of the conus medullaris.

2. Case report

A 75-year-old man suffered from low-back pain with radiation to the legs for many years. Difficulty in urination was noted. The patient received an L1 to L4 laminectomy due to lumbar spondylosis 5 years ago. He fell down because of his left lower limb weakness several days before this admission. Preoperative neurological examination revealed sacral analgesia, left thigh and calf muscle atrophy, and decreased muscle power and deep tendon reflex in the legs bilaterally. In a urodynamic study, a neurological bladder was also found.

MRI (1.5-T, Horizon LX, General Electric) of whole spine showed a well-defined mass in the conus medullaris of the spinal cord (Fig. 1A–D). The tumor exhibited isointensity on T1-weighted images, hyperintensity on T2-weighted images, and heterogeneous, obvious enhancement on gadolinium contrast-enhanced T1-weighted images. A peritumoral cystic component also was noted. Adjacent serpiginous flow voids, indicating enlarged vessels, were noted at the surface of the rostral cord. Spondylosis at the level of L4 with laminar defects was also noted.

The tumor in the conus medullaris was partially removed. L3 laminectomy was also performed for decompression of

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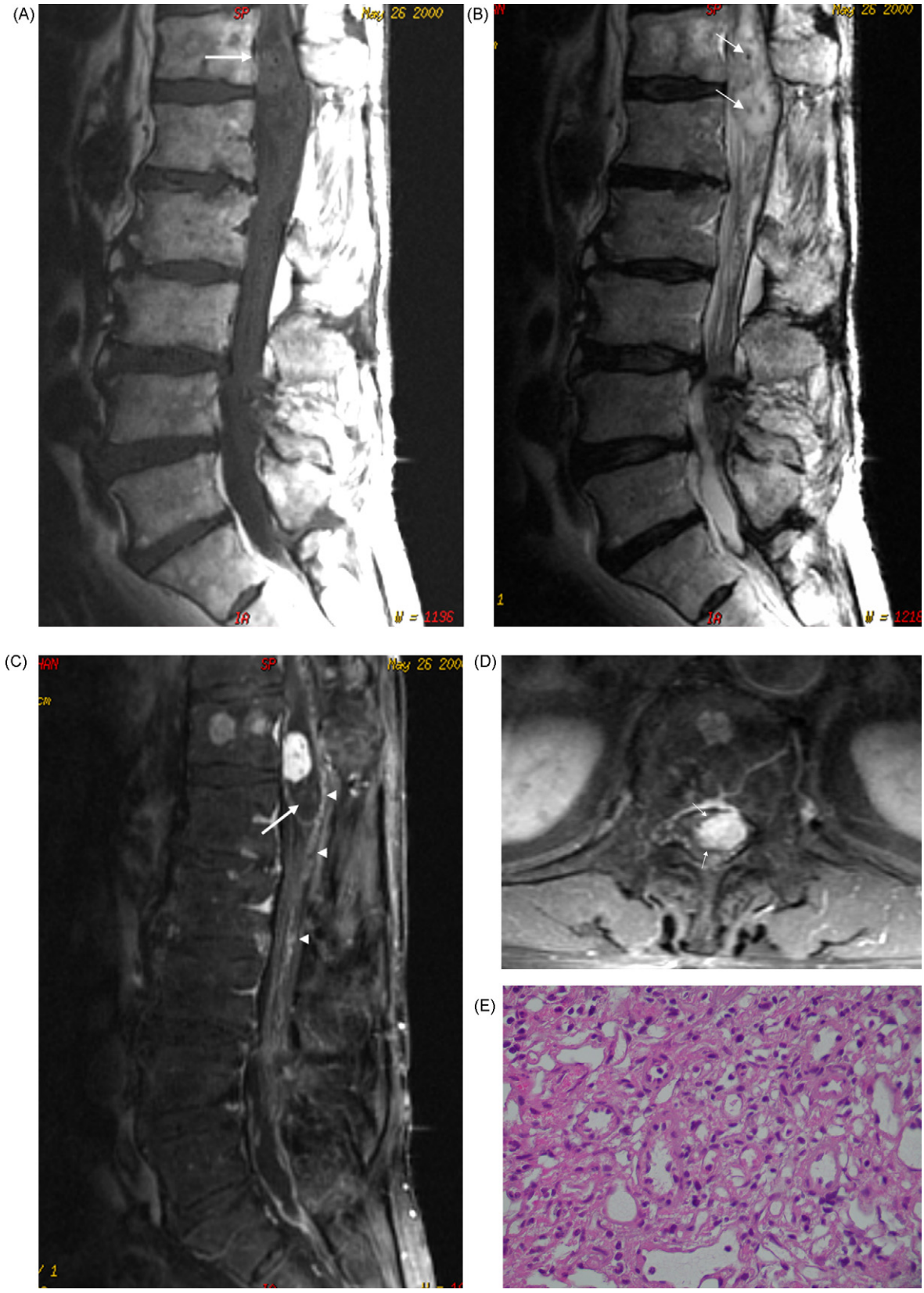

Fig. 1. (A) Sagittal T1-weighted MRI image (TR = 400 ms, TE = 12 ms) shows an isointense signal of the tumor (arrow) at the conus medullaris. (B) Sagittal T2-weighted image (TR = 3000 ms, TE = 121.8 ms) shows a hyperintense signal of tumor intermixed with signal void spots (arrows). (C) Sagittal gadolinium-enhanced T1-weighted image (TR = 366.7 ms, TE = 13.1 ms) shows heterogeneous enhancement of the tumor (arrow) with a peritumoral cystic component (curved arrow). Note extratumoral tortuous vessels (small arrows). (D) Axial gadolinium-enhanced fat saturation T1-weighted image (TR = 650.7 ms, TE = 13.6 ms) shows intramedullary location of the tumor (arrow) with obvious enhancement. (E) Photomicrograph shows that the tumor is composed of large vessels and numerous small capillaries (H&E, 400×).