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THORACIC INTRADURAL INTRAMEDULLARY CAVERNOMA

TORAKAL İNTRADURAL İNTRAMEDÜLLER KAVERNOM

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ABSTRACT

Spinal cavernomas are rare pathologies that account 5% to 12% of spinal vascular abnormalities. Sensory or motor symptoms are most frequent followed by pain and bladder dysfunction. Since development of ultra-high resolution magnetic resonance imaging techniques and modern sequences like susceptibility-weighted imaging, spinal cavernous malformaions can be diagnosed more accurately. Surgical removal of a symptomatic cavernoma is suggested to prevent further neurological deterioration, but must be weighed against the potential risks of surgery. We represent a rare illustrative case of thoracal spinal intradural cavernoma associated with multiple intracranial cavernomas.

Key Words: Spinal cavernoma, thoracic intramedullary cavernoma, multiple cavernoma

Level of Evidence: Case report, Level IV.

ÖZET

Spinal kavernomlar nadir görülen patolojilerden olup spinal vasküler patolojilerin %5 - %12' sini oluşturur. Görülen duyusal ve motor semptomları en sık ağrı ve mesane disfonksyonları takip eder. Yüksek çözünürlüklü ve modern manyetik rezonans görüntüleme tekniklerinin gelişmesiyle beraber spinal kavernöz malformasyonların tanısı artmıştır. Potansiyel cerrahi riskleri kabul edildiği takdirde semptomatik kavernomların nörolojik defisitin ilerlememesi için çıkarılması önerilir. Olgu sunumumuzda nadir görülen ve çoklu kranial kavernomların eşlik ettiği torakal spinal intradural intramedüller kavernom anlatılmaktadır.

Anahtar Kelimeler: Spinal kavernom, Torakal intramedüller kavernom, Çoklu kavernom

Kanıt Düzeyi: Olgu sunumu, Düzey IV.

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INTRODUCTION

Spinal cavernomas are rare pathologies that account 5 % to 12 % of spinal vascular abnormalities [3]. Risk of hemorrhage ranges between 1.4 % and 4.5 % per patient per year, increasing to 66 % per patient per year in patients with a previous history of hemorrhage [17]. In contrast to the sporadic form, patients suffering from a familial syndrome or genetic alteration are at an increased risk for the development of both cerebral cavernous malformations as well as spinal cavernous malformations [4,16]. Sensory or motor symptoms are most frequent followed by pain and bladder dysfunction [2].

Since development of ultra-high resolution magnetic resonance imaging (MRI) techniques and modern sequences like susceptibility-weighted imaging (SWI), spinal cavernous malformations can be diagnosed more accurately [4].

Surgical management of spinal cord cavernous angiomas is challenging due to the risk of additional neurological deficits [8]. Surgery of intramedullary lesions has become safer after technical improvements of intraoperative electrophysiology[11].

We represent a rare illustrative case of thoracic spinal intradural cavernoma associated with multiple intracranial cavernomas.

CASE REPORT:

A 54 years old male patient presented with paresthesia of bilateral upper extremities to our outpatient clinic. Neurological examination was normal except paresthesia. Patient had been send to radiology for diagnostic imaging with MRI.

Cervical MRI showed a lesion at upper thoracic region. A detailed contrast enhanced spinal MRI was made and lesion diagnosed as thoracic intradural cavernoma with axial and sagittal images **(Figure-1).**
Cranial MRI with SWI was made to diagnose whether the lesions were multiple or not. Cranial MRI reported multiple intracranial cavernomas **(Figure-2).**

Patient had been followed up for one year with pregabaline treatment. Cavernoma did not grow up and patient's symptoms were decreased with medical treatment so surgery was not suggested.

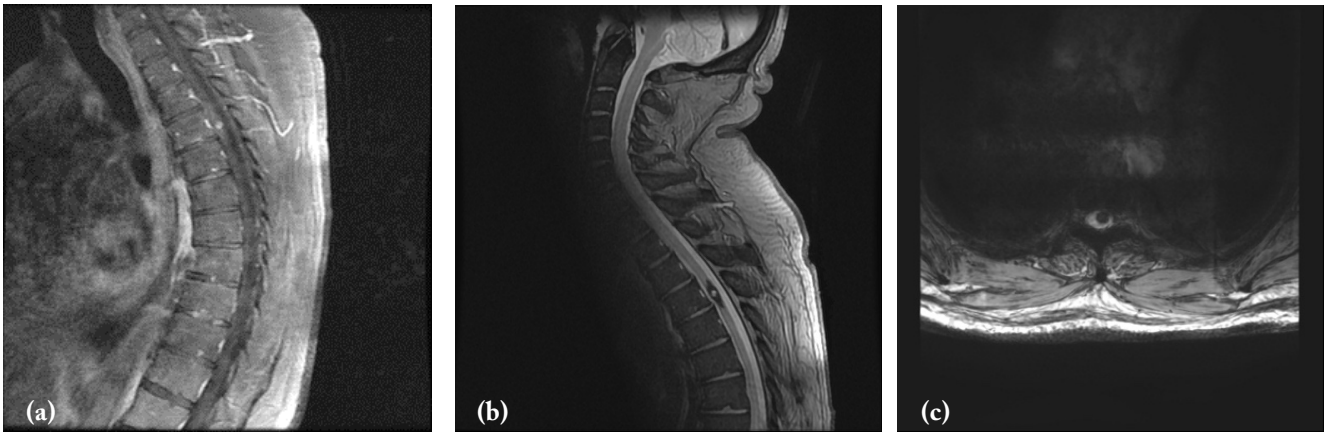

Figure-1. a) Sagittal thoracic contrast enhanced MRI image with cavernoma at T4, **b)** Sagittal cervico-thoracic SWAN MRI image, **c)** Axial SWAN MRI image at T4 level presenting the cavernoma.

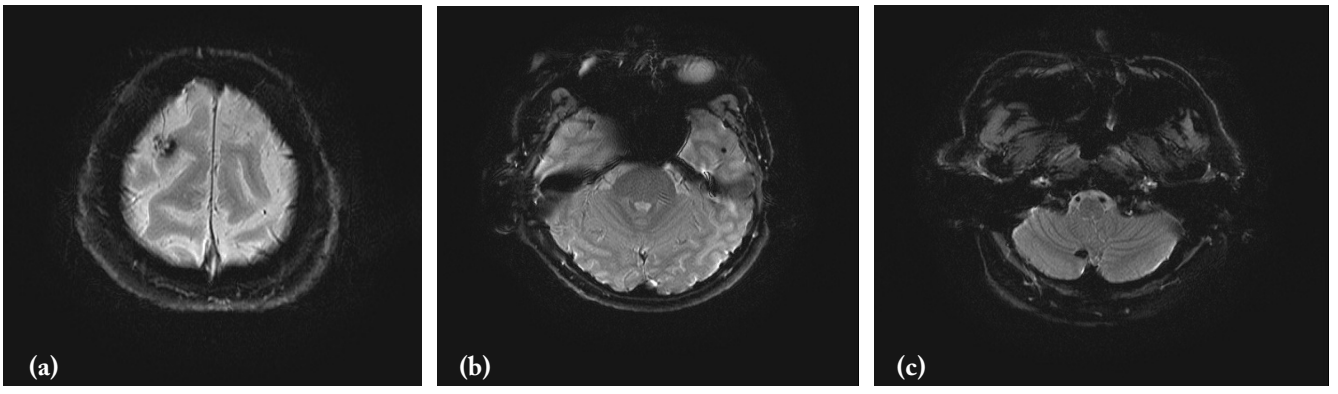

Figure-2. Cranial MRI axial images of cavernomas, **a)** Vertex, **b)** Left temporal, **c)** Cerebellum.

DISCUSSION

The entity of spinal intramedullary cavernous malformation was first reported in 1903 in an autopsy study of a 35-year-old woman with a lesion at L_1 that had bled [6]. Spinal cavernous malformations are rare vascular lesions which may lead to symptoms such as sensory/motor deficits, myelopathy, or para/tetra paresis [7,9]. Progressive worsening is because of the changes in lesion such as micro hemorrhage, microcirculatory changes, hyalinization, wall thickening, gliosis or partial thrombosis [10,13].

Cavernous malformations must remain in the differential diagnosis of intradural intramedullary lesions. The differential includes multiple sclerosis, spinal ependymomas, astrocytomas, metastatic disease, hemangioblastomas, spinal arteriovenous malformations, and transverse myelitis. The deposition of hemosiderin resulting in a hypointense rim around a mixed signal intensity leads to the pathognomonic appearance of cavernous malformations on T2-weighted MRI [5,14].

Surgical removal of a symptomatic cavernoma is suggested to prevent further neurological deterioration, but must be weighed against the potential risks of surgery. In 1912 the first successful excision of an intramedullary cavernous malformation was performed that was completely resected and the patient's condition improved postoperatively [12].

Patients with spinal cavernomas improve after surgery account 59 % to 66 %, and only 6 % have permanent disabling neurological deficits [15]. Intraoperative neuromonitoring is crucial as it helps to avoid neurological deterioration during surgical resection [1].

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