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*Corresponding author: Patricia Alejandra Garrido Ruiz, Neurosurgeon, Neurosurgery Department, Salamanca University Hospital, Spain, Tel: 34616792305; E-mail: agrjandri_92@hotmail.com

ORCID: <https://orcid.org/0000-0002-0973-3994>

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Case Report

Cone cavernoma with a twice secondary intramedullary hemorrhage

Patricia Alejandra Garrido Ruiz^{1*} and Marta Román Garrido²

¹Neurosurgery Department, Salamanca University Hospital, Spain

²Primary Care Department, Salamanca University Hospital, Spain

Abstract

Possible complications that may occur and how to solve them before surgery are essential. This case is of special interest for being a low-incidence pathology in a rare location. The case is of high interest because of the importance of evacuating the hemorrhage to prevent sequels and the complexity of its management and highlights the importance of considering the diagnosis of this event.

Introduction

We present a type II cavernoma in the medullary cone with two episodes of sudden deficit due to hemorrhage. This report describes a type II cavernoma located at the conus medullaris, which is rare as there are few reported cases of cavernomas occurring at this location in the literature. The case is of great interest because the conus medullaris is a rare location of cavernoma [1-4] with few cases reported in the literature and because of the importance of keeping in mind its diagnostic possibility.

Materials & methods

We present the case of an 80-year-old patient with sudden neurological deterioration, who debuted with hypoesthesia in the saddle, acute urinary retention, hypoesthesia, and loss of strength in the right lower limb. A spinal cord magnetic resonance was performed, showing hemorrhage in the conus medullaris cavernoma, diagnosed 20 years ago that remained asymptomatic. Despite presenting some improvement after medical treatment and rehabilitation, he suffered a second hemorrhage in 4 weeks. Hemorrhage affecting the spinal cord is rare. Spinal cord hemorrhage can be divided based

on etiology, into two types: traumatic and non-traumatic. It can also be divided based on the compartment into which the hemorrhage occurs, namely: intramedullary (including hematomyelia), Subarachnoid (SAH), Subdural (SDH), and/or Epidural (EDH). Spinal cord hemorrhage is most commonly caused by trauma, vascular malformations, or bleeding diatheses. Spinal cord hemorrhage usually presents as sudden, painful myelopathy, which may reflect the anatomic level of the hemorrhage. For perfusion, three longitudinal vessels form an anastomotic network that supplies the spinal cord: two posterior spinal arteries, and the anterior spinal artery. Blood flows from the anterior spinal artery into medullary branches of the intradural vertebral arteries, and subsequently into segmental radiculomedullary arteries. Intramedullary spinal cord hemorrhage (hematomyelia) is an uncommon cause of myelopathy and can present in an acute, subacute, stepwise, or chronic fashion. Based on the existing literature, spinal vascular malformations such as intramedullary cavernous and intradural arteriovenous malformations are the most common cause of atraumatic intramedullary spinal cord hemorrhage. Additional considerations include warfarin or heparin anticoagulation, hereditary or acquired bleeding disorders, primary spinal cord tumors, spinal cord metastases,

Gowers' intraspinal hemorrhage, or a delayed complication of spinal radiation. Prompt diagnosis of hematomyelia first requires recognition of a myelopathy syndrome (transverse, central, anterior, posterior, or hemi-cord) often accompanied by sudden, severe back or neck pain and sometimes radicular pain. MRI with and without gadolinium is the preferred imaging modality. There are no clinical trials to guide the management of acute intramedullary spinal cord hemorrhage, and subsequent treatment is usually directed toward the underlying cause (Figures 1-4).



Figure 1: Cone Cavernome Hemorrhage at Sagittal Spine T2 MRI.



Figure 2: Cone Cavernome Hemorrhage at Sagittal Spine T1 MRI.

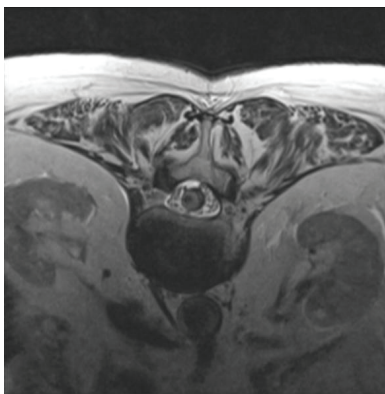


Figure 3: Cone Cavernome Hemorrhage at Axial Spine T2 MRI.

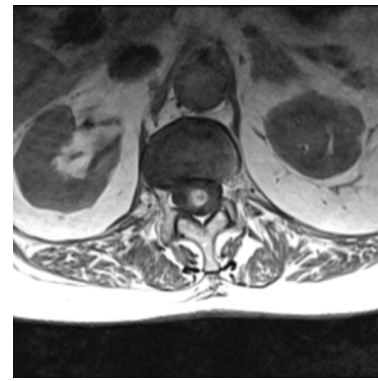


Figure 4: Cone Cavernome Hemorrhage at Axial Spine T1 MRI.

Results

Complete resection of the cavernoma and intramedullary hematoma is performed under neurophysiological monitoring. Presenting the patient with a satisfactory clinical evolution, persisting the previous paresis. The pathology of the solid component was compatible with sinusoidal vessels with a diagnosis of cavernoma. The cystic component was made up of blood degradation products at different stages [5,6].

Conclusion

Intraspinal cavernomas are rare vascular lesions, intramedullary cavernomas accounting for approximately 5% - 12% of spinal cord vascular pathology. Only 7% of them are located in the lumbar region [1-3]. The cone-shaped cavernoma is rare and difficult to access. There are few cases described in the literature. In this location, the form of appearance after bleeding is rare and can be decisive [7]. It is important to keep in mind its diagnostic possibility in surgical treatment. Although there is a tendency in the literature to consider that all intramedullary cavernoma, especially if it is symptomatic, should be treated surgically, this approach must be individualized for each particular case.

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