Arachnoid Cysts: A Rare Cause of Decreased Muscle Strength

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A 12-year-old female adolescent, previously healthy, was admitted to the emergency room due to lower limb strength associated with frequent falls with one month of evolution and with progressive worsening in the last week. Physical examination showed spastic paraparesis with grade 3 muscle strength, tacto-algic hypoesthesia at the seventh dorsal vertebra (D7) level, reduction of the vibratory and proprioceptive sensitivity of the lower limbs, and a positive heel to shin test. Walking was possible but with some imbalance, without a preferential fall. The brain magnetic resonance imaging (MRI) was normal. The dorsal and lumbosacral spine MRI revealed a lesion occupying space in the dorsal segment (between D2 and D6), with a craniocaudal diameter of approx. 7.1 cm, conditioning compression of the spinal cord and possible myelopathy, corresponding to an arachnoid cyst (Fig. 1). She was transferred to another hospital, where she underwent the complete excision of the lesion, with gradual resolution of the symptomatology, and has been asymptomatic since then.

Arachnoid cysts are cerebrospinal fluid-filled sacs that are located between the brain or spinal cord and the arachnoid membrane. They are more common in males and can occur at any age. The signs and symptoms depend on the size and location of the cyst and most of them are asymptomatic. Most arachnoid cysts are located in the temporal region of the skull known as the middle cranial fossa.[1,2] Arachnoid cysts of the spinal cord are rarer and are associated with root pain, progressive decrease in the lower limbs strength, and paresthesia.[3] The diagnosis requires computed tomography or spinal MRI. Surgical removal is indicated only when there are symptoms related to the cyst and in most cases with total resolution of the symptomatology, as observed in this case.[1-3]

Keywords: Adolescent; Arachnoid Cysts/diagnosis; Muscle Weakness/etiology; Spinal Cord Compression/diagnosis; Spinal Cord Compression/etiology

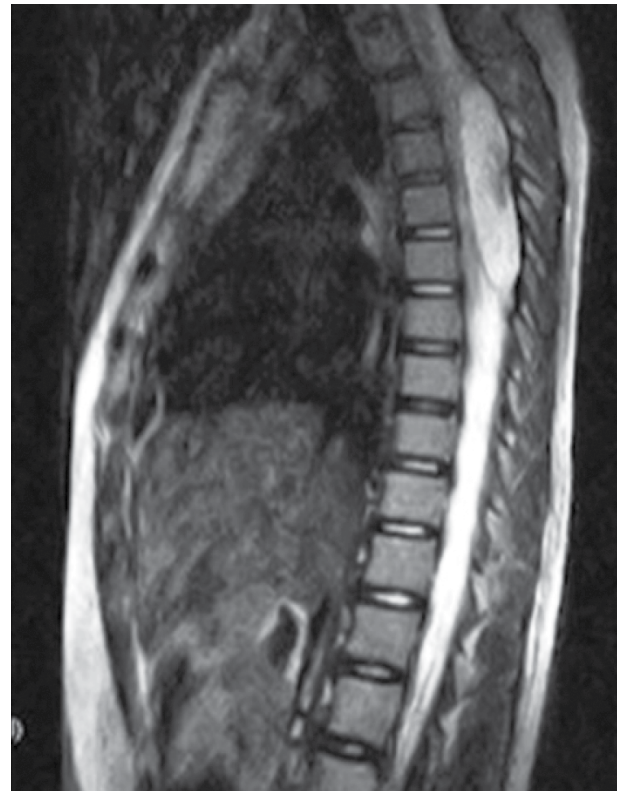

Figure 1. Sagittal T2 dorsal and lumbosacral spine MRI revealed a lesion in the dorsal segment, corresponding to an arachnoid cyst.

WHAT THIS REPORT ADDS

- Muscle strength changes are a frequent sign in the pediatric age and may result from dysfunction at any level of the nervous system (cortex, spinal cord, peripheral nerve, neuromuscular plaque, and muscle), which conditions a wide variety of pathologies.
- Therefore, a systematized approach to diagnosis is imperative.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

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