

GIANT CERVICO-THORACIC EXTRADURAL ARACHNOID CYST

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Spinal extradural cysts, like synovial, Tarlov's, arachnoid and dermoid¹, are unusual causes of epidural compressive syndromes. We discuss the clinical treatment and evolution of a rare giant cervico-thoracic extradural arachnoid cyst, that has rarely been reported in the literature²⁻⁴. Arachnoid extradural cysts are usually located in the inferior thoracic region, with a wide range of clinical presentation, varying from totally asymptomatic to a severe myelopathy. Surgical resection is usually indicated for symptomatic patients⁴⁻⁷.

CASE

A 46-year-old man was referred to our institution with a two months history of progressively reduction of muscular strength and numbness in the superior limbs, followed by leg weakness, impairing his walking abilities. He denied sphincter or sexual dysfunction. He mentioned a cervical spine trauma history 10 years before, that did not require any specific treatment. On examination, a spastic tetraparesis was noted. Muscle strength: superior limbs: 3/5; inferior limbs: 3/5. Hoffman and Babinski's signs were also detected. Bilateral forearm and hands atrophy were present, being more severe on the left side. Radiological investigation with magnetic resonance (MR) (Fig 1) showed a cervi-



Fig 1. MR of cervical spinal cord, with sagittal (left) and axial (right) T2 sequence showing anterior spinal cord compression at C4-5 and at C5-6. However, a large posterior epidural cyst can be seen from C2 to C7-T1, resulting in severe posterior cord compression.

cal spinal cord compression, being visualized a posterior giant epidural cyst.

An extensive laminectomy from C2 to T1 was performed (Fig 2). Then, a large extradural cervico-thoracic cyst was visualized. After microsurgical dissection, total resection was achieved with-



Fig 2. Intra-operative picture showing surgical dissection of the cranial portion of the cyst, after extensive laminectomy from C2 to T1.



Fig 3. Cervical X-rays: preoperative (left) and postoperative (six months - right) images, showing preservation of the physiological cervical lordosis.

CISTO GIGANTE CÉRVICO-TORÁCICO EXTRADURAL DA ARACNÓIDE

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out cyst rupture, closing the dural defect at C6 with unabsorbable suture, at the exit of the nerve root, on the left side. Then, an *in situ* arthrodesis was performed with the graft obtained from the laminectomy. At the post-operative period, a cervico-thoracic orthosis (Minerva brace) was prescribed for the next six months.

Six months after surgery, a neurological improvement was achieved. Muscular strength was returned to 5/5 in the superior limbs, with just mild dexterity impairment, and 4/5 strength in the inferior limbs were noted, returning to ambulation without assistance. Cervical X-rays showed normal cervical alignment without kyphosis (Fig 3).

DISCUSSION

The pathogenesis and etiology of the arachnoid cysts are not well established in the literature. Some authors reported a causal relation with a dural defect, primary or secondary to previous inflammation, surgery or spinal trauma^{3,4,8-10}. The history of cervical trauma of our patient may have influenced cyst formation.

In our literature review, we found 41 cases of extradural arachnoid cysts. Most of them were located at the inferior thoracic region^{3,6,8,10-14}, with just four cases in the cervico-thoracic level.

MR is the standard exam to diagnosis these lesions. Cyst contents have a hypointense sign on T1 and a hyperintense on T2-weighted sequence, similar to the cerebrospinal fluid sign. Absence of a mural nodule with contrast enhancement is another important radiological characteristic. Some authors suggest a myelo computerized tomography to visualize the communication between the cyst and the subarachnoid space^{4,9,10,15}. A detailed MR evaluation is the most important step before surgery.

Surgical treatment is always indicated when there is spinal cord compression or when the lesion is located in the anterior portion of the cord, due to ischemic risk of the compression in this region. Total resection with dural defect closure is the main goal to avoid late relapse^{3,4,5,7,16}. Extensive cervical laminectomies can be followed by fusion and instrumentation to avoid progressive deformi-

ties, like post-operative kyphosis^{2,6,17}. We usually perform laminectomy or non expandable laminotomy for intra or extradural lesions and closing radiological follow-up to detect patients with signs of progressive spine deformity.

Good clinical results can be achieved with surgical treatment even in giant cysts with severe myelopathy.

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