Ganglion Cyst of the Spinal Anterior Longitudinal Ligament Presenting as a Retropharyngeal Mass

Roland Giger, MD, Ildiko Szalay-Quinodoz, MD,† André Haenggeli, MD,* and Pavel Dulguerov, PD, MD**

Cervical spinal synovial and/or ganglion cysts can occur at various periarticular sites and should be considered in the differential diagnosis of intraspinal-extradural or paraspinal masses of the cervical spine. The first report of a ganglion cyst of the cervical anterior longitudinal ligament presenting as a retropharyngeal mass, is presented. The histopathology, etiology, and clinical aspects of synovial and ganglion cysts of the cervical spine are briefly reviewed.
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(*Editorial Comment*: This interesting and well illustrated case report serves to remind us of yet another entity that should be placed in our differential diagnosis of retropharyngeal masses.)

Synovial and ganglion cysts arise from tendon sheaths and periarticular tissues.[1,2] Histologically, a true synovial cyst is a cystic herniation of the synovial sheet. Clear, xanthochromic fluid is present within the lumen, which is bordered by a mono- or pluristratified cuboid synovial-like epithelium. This epithelium is surrounded by a lax hyperplastic connective tissue.[1-4] Ganglion cysts are filled with sticky, gelatinous protein material and is supposed to represent a myxoid degeneration of the fibrous adventitial tissue. Therefore, ganglion cysts do not present an epithelial lining and are surrounded by bundles of collagen fibers.[1,2,5,6]

Whereas synovial and ganglion cysts are frequent in peripheral joints, synovial or ganglion cysts of the spine are more rare[1,2] and occur most often in a lumbar location.[1-4,6,7] An extensive search of the literature revealed reports of only 30 individual cases with cysts located about the cervical spine.[1-15] The largest series included 3 cases, and none of these reports were published in the otolaryngologic literature.[8] Twenty-six cases were synovial cysts, and only 1 presented as a retropharyngeal mass.[1] Only 4 reports exist for ganglion cysts located in the cervical region.[5,6,13,14]

We present the first reported case of a cervical ganglion cyst presenting as a retropharyngeal mass and discuss the histopathology, etiology, and clinical aspects of spinal synovial and ganglion cysts.

CASE REPORT

A 58-year-old woman presented with a 1-month history of mild dysphagia and pharyngeal foreign body sensation. The patient's remaining history was unremarkable except for an idiopathic, chronic thrombocytopenia since 1980, temporarily treated with corticosteroids.

On physical examination, a 2- by 4-cm posterior oropharyngeal wall bulging was found. The mass was located on the left side and did not cross the midline. The pharyngeal mucosa was intact, and the findings of the rest of the head and neck examination were unremarkable.

Computed tomography (CT) scan of the cervical spine identified a hypodense cystic formation with a hyperdense rim, 1 to 2 mm in thickness, located in the left hemipharynx posterior to the prevertebral muscles at the C2 level (Fig 1). Additionally, the CT scan re-

From the Departments of *Otorhinolaryngolgy—Head and Neck Surgery, and †Pathology, Geneva University Hospital, Geneva, Switzerland.

Address correspondence to Pavel Dulguerov, MD, PD, Department of Otorhinolaryngology—Head and Neck Surgery, Geneva University Hospital, 24, rue Micheli-du-Crest, CH-1205 Geneva, Switzerland.

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Fig 1. Preoperative computed tomography (CT) scan of the cervical spine showing a small retropharyngeal cystic mass on the left side.

vealed cervical disc arthrosis combined with arthrosis of the posterior interapophyseal joints of C3 to C6. Needle aspiration was refused by the patient.

The mass was excised via a transoral approach. The dissection from the underlying anterior longitudinal ligament was difficult, but the mass was easily separated from the cervical vertebra. The patient's postoperative course was unremarkable. There is no clinical evidence of recurrence 1 year after the excision.

The specimen consisted of a yellow-tan fragment of fibrous tissue, 5 × 1.5 × 1 cm. Microscopic evaluation demonstrated a benign, multilocular cystic lesion with walls rich in collagenous fibres, but without synovial cell lining. Focal myxoid degeneration was present within the fibrous tissue. The cyst was filled with a liquid containing small amounts of myxoid and fibrous material. The histopathologic analysis was consistent with a ganglion cyst (Figs 2 and 3).

DISCUSSION

Synovial and ganglion cysts have been found arising from periarticular fibrous connective tissues and from spinal synovial joints.[1-7,9] Because the terms ganglion cyst and synovial cyst are often used interchangeably in the medical literature and because most cases with spinal cysts have been reported in juxtaposition to the facet joints of the lumbar spine, some investigators do not make the distinction and use the term "juxtafacet cysts."[1,2] The term synovial cyst should

be used if the cyst capsule contains lax hyperplastic, vascularized connective tissue lined by synovial epithelium. This type of cyst is thought to originate from the herniation of the synovial membrane through the joint capsule.[1,2,3,5,9] Ganglion cysts probably result from a myxoid degeneration of periarticular fibrous adventitial tissue or from an increased hyaluronic acid production by fibroblasts, probably stimulated by articular movements.[1,2,5,6,9] The cyst in our case report arose within the anterior longitudinal ligament of the cervical spine. The absence of a synovial lining and the lack of a relationship to a facet capsule qualify the pathology as a ganglion cyst.

Synovial or ganglion cysts of the spine have been found on the dorsal and ventral aspects of facet joints, in the ligamentum flavum, in the transverse ligament of the atlas, and in the synovial joint of the os odontoideum connected to the body of C2.[2-15] In only 1 case was the location of a synovial cyst within the cervical anterior longitudinal ligament.[1]

The etiology of these cysts includes degenerative, traumatic, congenital, and inflammatory causes.[1-7,9] In our case, the evidence of cervical disc arthrosis combined with arthrosis of the posterior interapophyseal joints of C3 to C6 seems to support the hypothesis that degenerative factors may play a role in the pathogenesis of ganglion cysts.

Depending on their size and location, cervical spine cysts have been associated with neck and shoulder pain, upper extremity radiculopathy, myelopathy, and dysphagia.[2-15] The only reported case of a patient with a synovial cyst within the anterior longitudinal ligament of the cervical spine complained of feeling a mass in the throat on swallowing and talking, as well as a mild dysphagia.[1] Our patient, with a ganglion cyst in a similar location, also experienced mild dysphagia.

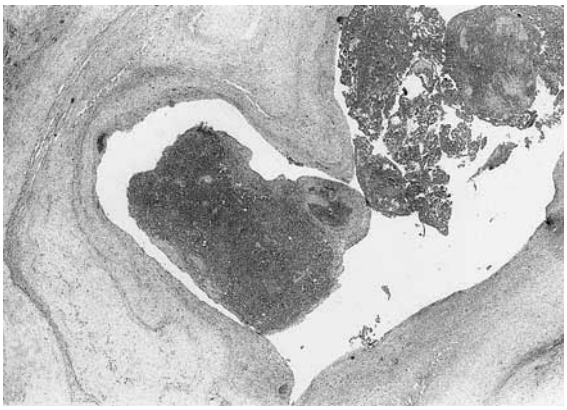

Fig 2. Microscopic appearance of the multilocular ganglion cyst. The cyst wall exhibits an abundant deposition of myxoid material in a sparsely cellular stroma. The content is an amorphous, gelatinous material. (Periodic acid–Schiff and Alcian blue; original magnification ×25.)

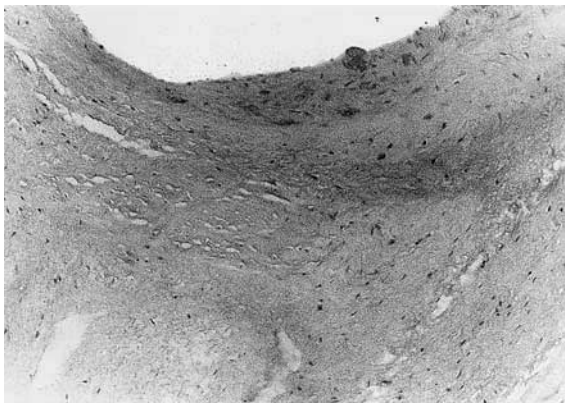

Fig 3. The higher magnification shows the absence of epithelial or synovial lining (Periodic acid–Schiff and Alcian blue; original magnification ×100.)

Radiologically, the lesions may appear on CT scan as cystic pathologies, sometimes with calcification within the capsule.[1,2,5,9,13,14] Magnetic resonance imaging seems to be the superior radiologic technique in the diagnosis of spinal cystic lesions owing to its capacity to demonstrate an enhancement of the cystic rim.[2-9,13-15]

CONCLUSION

This case report represents the first description of a cervical paraspinal ganglion cyst presenting as a retropharyngeal mass. Paraspinal cysts are usually asymptomatic, but occasionally they may produce unusual symptoms like back and neck pain or mild dysphagia. Synovial or ganglion cysts should be considered in the differential diagnosis of an intraspinal-extradural and paraspinal mass of the cervical spine, and it should be possible to diagnose these lesions preoperatively by CT scan and/or magnetic resonance imaging. The

definitive diagnosis and treatment of such cases remains surgical excision.

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