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Case report

A ganglion cyst derived from a synovial cyst: A case report



Zahir Kizilay^{a,*}, Ali Yilmaz^a, Sevilay Gurcan^b, Osman Berber^a,
Yelda Ozsunar^c, Nuket Eliyatkin^d

^a Adnan Menderes University Medicine Faculty Neurosurgery Department, Aytepe-Aydin, Turkey

^b Adnan Menderes University Medicine Faculty, Pathology Department, Aytepe-Aydin, Turkey

^c Adnan Menderes University Medicine Faculty, Radiology Department, Aytepe-Aydin, Turkey

^d Adnan Menderes University Medicine Faculty and Basic Oncology PhDC, Institute of Oncology, Dokuz Eylul University, Aytepe-Aydin, Turkey

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ABSTRACT

The synovial and ganglion cysts originating from the facet joint have been named under the name of the Juxtafacet cyst by the several researchers. They put forward that the synovial cyst originated from the synovial joint. But, they failed to clarify the pathophysiology of the formation of the ganglion cyst. In this case report, we reported a 67-year-old male patient was referred to the emergency from another center with the complaint of a left leg pain and weakness in the left foot and patient was treated with microchirurgical technique. His pathological examination was evaluated a ganglion cyst. We have discussed and explained the pathophysiology of the formation of a ganglion cyst derived from a synovial cyst. And separately, we have presented the spinal cysts by grouping them under a new classification called a cystic formation of the soft tissue attachments of the mobile spine as well as dividing them into sub-groups.

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1. Introduction

Lumbar disk herniation is known as the most common cause of sciatalgia in the lower lumbar region, and contrary to this, a

spinal extradural cyst rarely lead to radiculopathy [1,2]. Spinal extradural cysts are classified according to their locations, origins and pathological characteristics by the authors, the cysts within the lumbar canal are, in a broader classification, also referred to as lumbar juxtafacet cysts (JFCs), ligamentous

* Corresponding author at: Adnan Menderes University Medicine Faculty, Neurosurgery Department, 09100 Aytepe-Aydin, Turkey. Tel.: +90 0256 4441256; fax: +90 0256 2148395/214 20 40.

E-mail addresses: zahir.kizilay@adu.edu.tr, zahirkizilay@hotmail.com (Z. Kizilay), dryilmazali@gmail.com (A. Yilmaz), drsevilay@yahoo.com (S. Gurcan), drozi86@gmail.com (O. Berber), yeldaosunar@gmail.com (Y. Ozsunar), drnuket2003@yahoo.com (N. Eliyatkin).

Abbreviations: JFCs, juxtafaset cyst; PLL, posterior longitudinal ligament; LF, ligamentum flavum; CT, computed tomography; MRI, magnetic resonance imaging.

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structures (posterior longitudinal ligaments (PLL)), ligamentum flavum (LF) cysts or arachnoid cyst according to the tissues they are associated with [3,4]. The synovial and ganglion cysts originating from the facet joint are named under the JCFs by the several authors and even though they put forward the synovial cyst originated from the synovial joint, they failed to clarify the pathophysiology of the formation of the ganglion cyst.

With this case report, we have explained the pathophysiology of the formation of a ganglion cyst. Separately, we presented the spinal cysts by grouping them under a new classification.

2. Case report

A 67-year-old male patient was referred to the emergency from another center with weakness in the left foot. From the patient's medical record, it was learnt that his complaints had first started 6 months ago in the form of a low back pain during his daily activities. When the patient had a low back pain, lumbar computed tomography (CT) was performed (Fig. 1A) and after that, he was administered with a medical treatment and physical therapy. But, the patient could not benefit from the medical and physiotherapy. Severe left leg pain started after five months later his lumbar pain and a lumbar CT was performed again at the hospital (Fig. 1B) and a operation was offered the patient but he did not accept the operation. A weakness developed in his left leg one month later his left leg pain. Contrast-enhanced and unenhanced lumbar magnetic resonance imaging (MRI) were performed in another health center. On the left L5-S1 level in the patient's unenhanced lumbar MRI was a cystic mass lesion adjacent to the left facet joint seen, which comprised within a heterogenous isointensity on T1 weighted sagittal and heterogenous hyperintense

on T2 weighted axial imaging (Fig. 2A). In the contrast-enhanced lumbar MRI, there was a cystic mass that separated from the facet joint and the periphery of which maintained contrast (Fig. 2B). The patient's examination, the left plantar flexion was 4/5, there was also hypoesthesia on the left S1 dermatoma, and the left achilles tendon reflex could not be received. Therefore, we chose the micro surgery option. In the course of the subperiosteal dissection, the left L5-S1 LF was observed to have lost integrity in the middle area, from which a cystic lesion with a dark red colored wall was seen to emerge toward the posterior region (Fig. 3). LF was removed from its torn regions with the help of a hook, and the cyst was totally exposed by performing flavectomy via Kerrison Rongeurs. It was seen that there were fibrotic tissues on the facet joint surface of the cyst; however, there was no adherence on the dural, root and PLL sides that formed the medial part, and a cystic mass with an oyster-white ventral part and a dark red posterior part. We removed the cyst totally through the microchirurgical technique. The patient's postop left leg pain recovered. The pathological examination of the operation material showed that cystic wall-like structure had fibromyxoid tissue, inflammatory cells, vascular proliferation, multinucleated giant cells and myxoid degeneration (Fig. 4A). There was no lining epithelium in inner surface of the cystic lesion. The lumen of the cyst lesion had red blood cells (Fig. 4B). Immunohistochemical stains for smooth muscle actin, CD34, S100 protein, and cytokeratin were negative. It was decided that the histopathologic results had indicated a ganglion cyst.

3. Discussion

The synovial and ganglion cysts of similar characteristics in terms of their clinic features, indications for treatment and prognosis are histopathologically distinguished from each

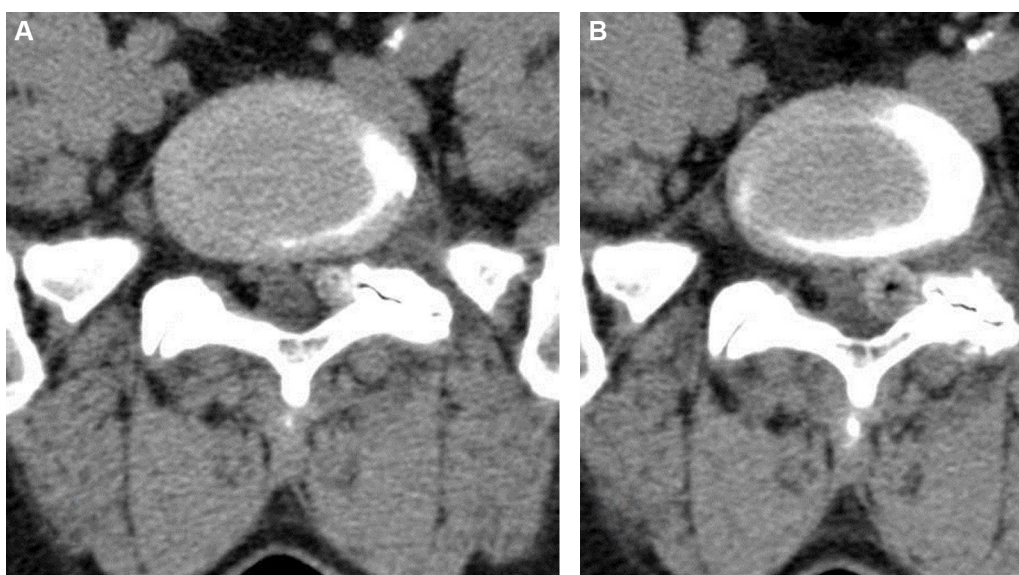


Fig. 1 – (A, B) The first axial CT (A) obtained 4 months after starting the symptoms of the patients. The first CT exam (A) shows a hyperdens nodular lesion adjacent to facet joints which has degenerative joint disease. The second CT (B) exam obtained one month after to the first exam shows the enlarged nodular structure contains vacume phenomena similar to intraarticular air of left facet joint space.

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