A case of lumbar ganglion cyst causing radiculopathy

Radikülopatiye yol açan lomber gangliyon kisti: Olgu sunumu

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Ganglion cysts represent a rare pathology mostly encountered in the lumbar region of the spinal column. Magnetic resonance imaging revealed a ganglion cyst at the L4-5 level in a 46-year-old woman who had a complaint of long-standing pain in her right leg. The cyst was completely excised following total laminectomy at L4. After surgery, her symptoms and neurological signs completely disappeared.

Key words: Cervical vertebrae; cysts/complications; ganglia; laminectomy; magnetic resonance imaging; radiculopathy/etiology; spinal diseases/diagnosis/surgery; synovial cyst/diagnosis/surgery.

Case report

A 46 year old female patient presented to the outpatient clinic with the complaint of right leg pain unresponsive to medical treatment. Pain which had been present for several years exacerbated with walking and sitting. In the neurological examination right straight leg raising test was positive at 30 degrees; there was a loss of 1/5 in the ankle dorsiflexion and hypoesthesia in the L5 dermatome. Magnetic resonance imaging (MRI) revealed a round mass with uniform edges at the right L4-5 level of the spinal canal, and degenerative changes at the same location (Figure 1a, b). Following total laminectomy of the L4 level, the mass encroaching the shoulder of the L5 root from the ligamentum flavum was excised totally. Postoperatively the total...
excision of the mass was confirmed with MRI (Figure 1c, d). The complaints of the patient arising from the radiculopathy, and the neurological status of the patient was resolved.

Microscopically, a unilocular cystic development without lining epithelium but with a fibrous tissue wall was observed (Figure 2a). Loci of calcification was present in the lumen and scarcely on the cyst wall (Figure 2b).

Discussion

Ganglion and synovial cysts, occurring rarely in the spinal canal, precipitate radiculopathic complaints. The etiology of the ganglion cysts are degeneration, trauma, inflammation, and they can also be seen congenitically. In our case, the presence of long lasting complaints, negative trauma history, and degenerative changes pointed degeneration as the etiological factor.

In the differential diagnosis of the extramedullar lesions of the spine, meningioma, schwannoma, metastatic tumors and pannus formation due to rheumatoid arthritis should be considered. Diffuse contrast uptake can be observed in meningiomas. High signal characteristic is present in schwannomas. Metastatic tumors usually cause osteolysis. In roma-

Figure 1: a) Preoperative appearance of lumbar ganglion cyst in sagittal MRG b) Preoperative appearance of lumbar ganglion cyst in axial MRG c) Postoperative appearance of lumbar ganglion cyst in sagittal MRG d) Postoperative appearance of lumbar ganglion cyst in axial MRG
The definite differential diagnosis of the synovial and ganglion cysts is made by pathological examination. A synovial cyst has a wall of epithelium like cuboidal synovia with clear and xanthochromic liquid. A ganglion cyst, on the other hand has gelatinous protein material and myxoid degeneration of the fibrous adventitial tissue, but no synovium like epithelium. Similar characteristics were observed in the pathological examination performed in our case. Diagnosis of synovial and ganglion cysts is made by preoperative MRG, computed tomography, myelography and percutaneous arthrography. Synovial cysts arise from the facet joints, while ganglion cysts arise from the ligamentum flavum. Filling of the cyst with contrast material during percutaneous arthrography is a sign favouring synovial cyst. Ganglion cysts appear as hypointense lesions in T1-weighted MRG images; hyperintense or heterogeneous lesions in T2-weighted images. Cyst capsule has the capacity to uptake contrast material.

Although spontaneous regression of synovial cysts could be observed, surgical excision, simple aspiration of the cyst material and injection of long lasting corticosteroid ensuing aspiration are the treatment methods. Surgical treatment is recommended if spinal ganglion cysts is symptomatic.

In conclusion, a ganglion cyst which is a rare cause of lumbar radiculopathy should be considered in cases recalcitrant to conservative treatment.

