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Case Report

Spontaneous Regression of a Symptomatic Lumbar Facet Synovial Cyst in One Month

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Abstract: Lumbar facet synovial cysts are common benign lesions arising from zygapophyseal joint capsule and are thought to result from chronic degeneration. They are usually asymptomatic. With the increasing use of magnetic resonance imaging in daily practice, the incidence of synovial cysts has also increased. While it is not very common, when they are symptomatic, they are generally treated by percutaneous needle puncture or surgical resection. There is still some controversy amongst clinicians on the management of symptomatic cysts. In this report we describe a rare case of 63-year-old male patient suffering from left leg pain caused by a L5-S1 left facet synovial cyst which regressed spontaneously in one month with no surgical intervention.
Keywords: Facet joint, lumbar spine, spontaneous regression, synovial cyst.

INTRODUCTION

Synovial cysts are benign lesions characterised by the synovial protrusion of the degenerated zygapophyseal joint capsule [1]. While there are several theories, neither the etiology, nor the natural course of the synovial cysts has not been clarified to the present. With the increasing use of MRI in daily practice, the incidence of synovial cysts has also increased [2]. The most common location is lumbar region with L4-L5 being the most frequent level [2, 3]. They are usually monoarthritic and asymptomatic. When symtomatic, they are generally presented with radicular pain which is a very frequent complaint at the admission to the neurosurgery clinic. With this report, we present a case of symptomatic facet cyst which regressed spontaneously over a period of one month. Even though there are several articles reporting facet cysts regressing spontaneously, to the best of our knowledge none reported a so fast regression in a period of time as short as one month [4-6].

CASE REPORT

A 63-year-old man admitted to our outpatient clinic with a history of low-back pain and left lateral leg pain for the past month. Neurologic examination showed Lasegue, straight leg raising tests (at 45^0) positive on the left side. Weakness of the left gastrocnemius and soleus muscle, rated 4 over 5 by manual motor testing and hypoesthesia on left S1 dermatome were also present. Magnetic resonance imaging revealed a cystic lesion with hyperintense rim and hypointense content projecting ventrally from the left L5-S1 facet joint and into the left lateral recess (Figure 1). Both treatment options, conservative and surgical, are discussed with the patient and regarding the neurological deficit, a surgical intervention is recommended. However the patient insisted to receive conservative treatment which consists of analgesic, neuroprotective and gastoprotective medication. One month later the patient readmitted. Patient had no complaint and physical examination revealed no neurolojical deficit and a MRI is performed which showed a near-complete regression of the cystic lesion (Figure 2).

DISCUSSION

Facet cysts are mostly seen in men of sixth decade [3, 7]. They are usually asymptomatic. When they are symptomatic they mostly cause radicular pain resembling that of lumbar disc herniation [1, 8]. Neurogenic claudication is the second most common symptom and they may rarely cause severe symptoms such as the cauda equina syndrome [7, 9]. Motor and/or sensory deficits may accompany nerve root compression. Sometimes accidents or straining may precede the symptoms [4, 10]. Facets cysts don't have specific differentiating clinical presentation. For differential diagnosis, ganglion cysts, Tarlov's perineural cysts, extradural arachnoid cysts, dermoid cysts and neuromas with cystic transformation should be kept in mind [11]. Our case was a male patient over 60 agessuffering from radicular pain at admission.

Definitive diagnosis tool is the MRI. They usually appear isointense in T1 weighted images, and hyperintense in T2 weighted images. The cyst capsule is enhanced in post-contrast series [1, 7]. For our case, MRI performed at admission revealed that the cyst was hyperintensat T2 wheighted series. Control MRI after one month showed that the cyts was regressed spontaneously.

The real incidence and prevalence of facet cysts of the vertebral column is not known [5]. In a radiological screening study of 1800 cases diagnosed by CT and MRI, the percentage of facet cysts was reported to be 0,6 % [12]. Doyle et al. reported 30 cases on 29 patient on their retrospective study using MRI data, while Lemish et al. reported 10 cases on 2000 patient using CT scan [7, 8]. The fact that much more cases are reported on studies on which authors used MRI as scanning tool explains that the recent frequent usage of MRI on neurosurgery practice leads to a rise in facet cyts incidence and that it is superior to CT scan. Nevertheless studies on the literature report that MRI has a 90 % sensitivity while CT scan has 70 % [1].

Facet cysts usually arise from facet joint capsule, rarely from transverse and posterior longitudinal ligaments [9, 10]. They are most commonly seen in the mobile lumbar region of the vertebral column; and rarely in the less mobile cervical and thoracic region [2]. In the lumbar region they are most commonly seen in the L4-L5 facet joints which is the most mobile segment [2, 3].

Although the definitive etiology of facet cysts is not known, the most widely accepted hypothesis is that it occurs due to overstraining of a previously degenerated vertebra [6, 11]. Increased lumbar mobility is also suspected to be a major factor [6]. The fact that facet cysts are most commonly seen in the most mobile level (L4-L5) of the lumbar vertebral column, and that increased mobility weakens the joint capsule support this hypothesis. Alternative hypotheses are myxoid degeneration and cyst formation in the connective tissue, increased hyaluronic acid production by fibroblasts in response to repetitive minor trauma, latent synovial proliferation, and metaplasia of the joint [13]. According to the literature, it can be suggested that basically facet cysts etiology consists of segmental instability and of trauma.

There is still some controversy amongst clinicians on the management of symptomatic cysts. Studies on the literature suggest surgical intervention for cases nonresponsive to conservative therapy [3, 4, 14]. There exists even though few, some studies suggesting conservative therapy for cases with mild symptoms and neurological deficits [5]. Lyon et al. reported a 91 % of good to perfect results on their study on 147 surgically operated patient; a regression of motor deficits on 82 % and a regression of sensorial deficits on 79 % are also reported [10]. Kahn et al. reported a very good surgical outcome of 92 % of perfect, very good or good results[15].

Conservative therapy choices for facet cytsts are bed rest, oral analgesics, physical therapy, orthopedic corsets, chiropractic care, CT-guided needle aspiration and intra-articular injection of corticosteroid drugs and cyst punctures. Bjorken et al. reported CT guided percuta injection as a good alternative to surgery, while accepting that their study has some limitations such as small sample size and short follow up [16]. Parlier et al. reported an acceptable benefit for long term evaluation of facet cyts patients underwent facet oint steroid injection[17]. There are also some studies suggesting distraction manipulation as a good option for the management of facet cyts [18].

We believe that this case report, with the short period of time in which the radicular pain complaint disappeared, and the radiological regression of the cyst occurred will contribute to the knowledge on the natural course of facet cysts, and that surprisingly short time for regression might steer us towards more conservative treatment options.

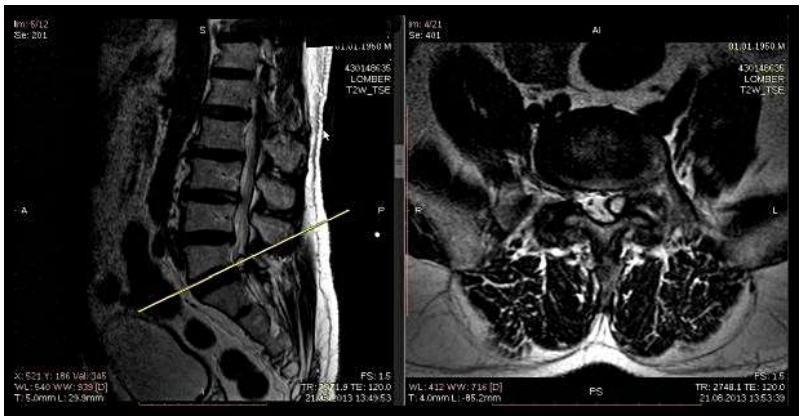

Fig-1: Magnetic resonance imaging at admission. Axial and left parasagittal T2 sequences show a juxtaarticular cystic lesion with hyperintense rim and hypointense content, projecting ventrally from the left L5-S1 facet joint and into the left lateral recess (white arrows) and impinging on the left S1 nerve root.

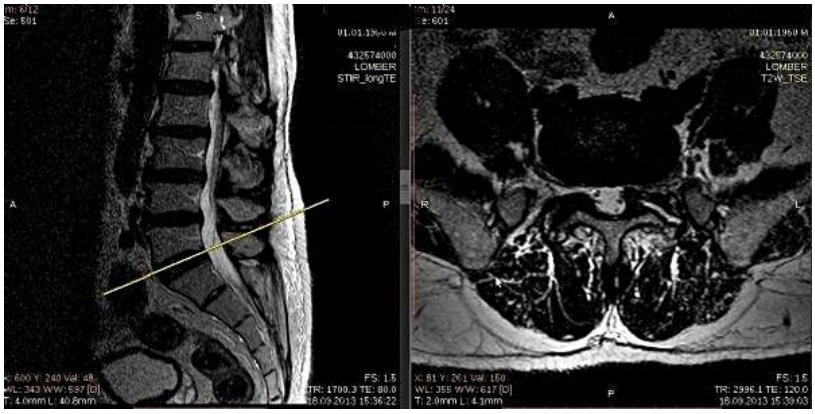

Fig-2: Magnetic resonance imaging, one month after admission. Axial and parasagittal T2 sequences show near-complete regression of the cystic lesion (white arrows).

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