



Case Report

Spontaneous Disappearance of Lumbar Synovial Cyst

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Summary

Objective: In our case study, we represent that lumbar synovial cysts can disappear spontaneously, therefore conservative treatment techniques could be used before planning for invasive methods.

Methods: A synovial cyst is detected with magnetic resonance imaging (MRI) in a patient with lumbar region and sciatic nerve pain. Conservative treatment methods are used.

Results: Symptoms improved with medication two months after the initial presentation of the patient. A year later MR images demonstrated that the cyst has disappeared. Four year follow up revealed that the lesion did not recur.

Conclusion: Synovial cyst for which methods of treatment is listed in the literature, is rare. It is also stated in the literature that lesion can regress spontaneously. A chance for a conservative treatment should be given to the patient.

Key words: Synovial cyst, facet joint, degeneration

Kendiliğinden Kaybolan Lomber Sinoviyel Kist

Özet

Amaç: Olgumuzda lomber sinoviyel kistlerin kendiliğinden kaybolabileceğini, girişim planlanmadan önce uygun hastalarda konservatif tedavi yöntemlerinin uygulanabileceğini vurguladık.

Yöntem: Şiddetli lomber ağrıyla gelen hastada manyetik rezonans (MR) görüntüleme ile sinoviyel kist saptandı. Konservatif tedavi uygulandı.

Sonuçlar: İki aylık ilaç tedavisiyle semptomlar iyileşme gösterdi. Bir yıl sonra yapılan MR görüntülemede lezyon kaybolmuştu. 4 yıllık kontrol sonrasında lezyon tekrarlamadı, hafif bel ağrısı lomber dejenerasyona bağlıydı.

Tartışma: Sinoviyel kist az görülür. Tedavi için girişimler literatürde bahsedilmiştir. Lezyonun kendiliğinden düzelebileceği bildirilmiştir. Konservatif tedavi şansı hastaya verilmelidir.

Anahtar Kelimeler: Sinoviyel kist, faset eklem, dejenerasyon

INTRODUCTION

Synovial cysts of the lumbar spine originate from the facet joint and extend into the spinal canal. Related nerve roots may be compressed by the cyst and cause radiculopathy. This pain may be impossible to differentiate from those led by disc herniations clinically. One common approach to those symptomatic

cysts is surgical. Spontaneous regression can rarely be seen and few cases are presented in the literature^(7,2).

MATERIAL AND METHODS

This study was approved by the Institutional Ethical Committee.

A 64-year-old gentleman has been having increasing left lumbar region and left

buttock, radicular, low back, burning, radiating pain provoked by walking for approximately two months. He could not tolerate the pain anymore and presented to neurosurgery department. Straight leg raising test at 45 degree angle was positive. Left L5 hypoesthesia was found during the examination. Neurological status was within normal limits.

Magnetic resonance imaging (MRI) demonstrated a left sided L5-S1 region

facet joint extradural synovial cyst (Figure 1.a-c). The lesion compressed left L5 nerve at the neural foramen level. There was no compression to the thecal sac. There was no intervertebral disc herniation or any other related mass region beside the degenerative facet joint changes. Furthermore there was grade 1 anterior minimal spondylolisthesis at L5-S1 level.

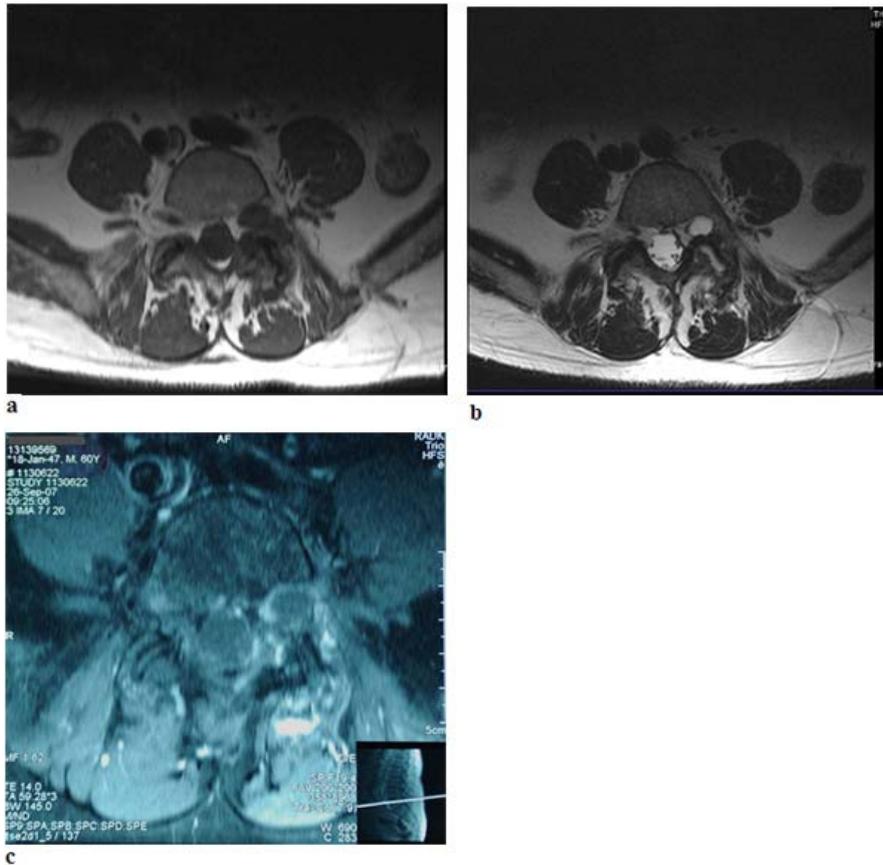


Figure 1a: Axial T1-weighted MRI (TR/TE, 442/12) demonstrates hypointense round synovial lumbar facet joint cyst at L5-S1 level on the left, causing pressure to left sided neural foramina and L5 nerve. **Figure 1.b.** Axial T2-weighted MRI (TR/TE, 3950/96) demonstrates lesion's hyperintense features with this sequence. **Figure 1.c.** Axial T1-weighted MRI (TR/TE, 442/12) with contrast shows lesion has peripheral contrast enhancement.

RESULTS

Treatment alternatives including surgery, medication and conservative approaches with nonsteroidal antiinflammatory agents have been discussed with patient in detail.

Patient decided in favor of conservative treatment after discussions with his physicians. His pain status altered and diminished gradually. Six weeks after his initial neurosurgery consultation, patient's

symptoms almost totally resolved. Follow up MR images showed the lesion with no other relevant lesion in the lumbar region. Patient had mild symptoms diminished with medication. Therefore he continued conservative management for one year. MRI at that time showed interval resolution of the lesion. Four years later another MRI examination revealed complete resolution of the cyst (Figure 2).

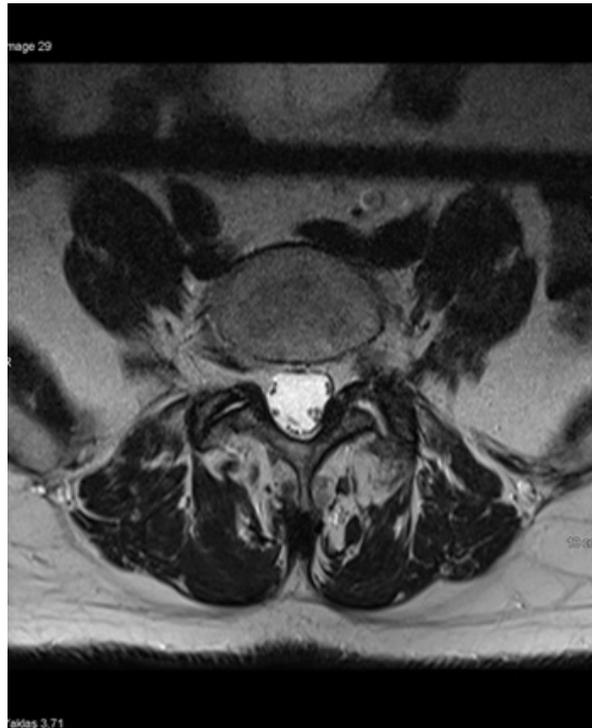


Figure 2: Follow up axial T2-weighted MRI (TR/TE, 5550/98) at the same level demonstrate complete resolution of the synovial cyst.

DISCUSSION

Synovial cyst is a cyst with a synovial lining in direct communication with a facet joint capsule. It may lose its association to the synovium, then change and degenerate or hemorrhage. Therefore synovial cysts may have slightly different imaging characteristics on MRI or during surgery. Some cysts may arise from ligamentum flavum, posterior longitudinal ligaments or annulus fibrosis.

Facet joint degeneration is a common feature or nature of synovial cysts in lumbar spine. Repetitive trauma cause herniation of synovium existing of a synovial fluid filled cyst. The most common sites are L4-L5, L3-L4 and L5-S1 respectively^(7,2). They usually present in elderly at an approximate age of 61 years. When they persist for several years they may calcify. Adjacent to cyst bone erosion may occur.

Characteristics of patient presentations are radiculopathy, low back pain, neurogenic claudication. Synovial cysts may suddenly enlarge due to internal hemorrhage. This may cause acute radiculopathy or cauda equina syndrome. Percutaneous aspiration, corticosteroid injection into facet joint have been described in the literature^(7,2,1,6). However, following transient amelioration, symptoms as well as cysts can recur^(7,2). On the other hand despite of complete resolution of the cyst, symptoms may persist attributed to spondylolisthesis and continuing facet joint degeneration.

Hsu et al⁽³⁾ reported conservative treatment in 11 patients, of whom six (55%) experienced improvement. Maezawa et al⁽⁴⁾ reported spontaneous remission of a synovial cyst in a 15-year-old boy after a history of sports related overactivity. Mercader et al⁽⁵⁾ reported on a patient who presented with sciatica and an intraspinal synovial cyst. Computerized tomography scanning documented regression of the lesion. Patient's symptoms have improved.

This limited literature suggested that intraspinal synovial cysts can regress spontaneously with correlative changes in clinical symptoms. Clarification of this possibility may include cyst rupture⁽⁷⁾. Another possibility may include progression of facet hypertrophy and disc space collapse may eventually decrease intraarticular pressure, resulting in shrinkage and sclerosis of a cyst.

Symptomatic epidural hematoma caused by lumbar synovial cyst rupture also has been reported⁽⁸⁾.

In our case, symptoms of the patient improved parallel to radiographic disappearance of the synovial cyst. Surgical management, percutaneous aspiration, corticosteroid injection into facet joint may be recommended for nonresolving or growing synovial cysts with clinically persistent symptoms. However, our report supports conservative management. Observation of these lesions

is an alternative in selected patients without significant neurological deficits.

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REFERENCES

1. Bureau NJ, Kaplan PA, Dussault RG. Lumbar facet joint synovial cyst: Percutaneous treatment with steroid injections and distention-Clinical and imaging follow up in 12 patients. *Radiology* 2001; 221: 179-185.
2. Houten JK, Sanderson SP, Cooper PR. Spontaneous regression of symptomatic lumbar synovial cysts. Report of three cases. *J Neurosurg (Spine 2)* 2003; 99:235-238.
3. Hsu KY, Zucherman JF, Shea WJ, et al. Lumbar intraspinal synovial and ganglion cysts (facet cysts). Ten year experience in evaluation and treatment. *Spine* 1995; 20: 80-89.
4. Maezawa J, Baba H, Uchida K, et al: Spontaneous remission of a solitary intraspinal synovial cyst of the lumbar spine. *Eur Spine J* 2000; 9: 85-87.
5. Mercader J, Munoz Gomez J, Cardenal C: Intraspinal synovial cyst: diagnosis by CT. *Follow*

- up and spontaneous remission. Neuroradiology 1985; 27: 346-348.*
6. *Parlier Cuau C, Wybier M, Nizard R, et al. Symptomatic lumbar facet joint synovial cysts: Clinical assesment of facet joint steroid injection after 1 and 6 months and long term follow up in 30 patients. Radiology 1999; 210: 509-513.*
 7. *Swartz PG, Murtagh FR. Spontaneous resolution of an intraspinal synovial cyst. Case report. AJNR Am J Neuroradiol 2003; 24:1261-1263.*
 8. *Wait SD, Jones FD, Lonser RR, et al. Symptomatic epidural hematoma caused by lumbar synovial cyst rupture: report of two cases and review of the literature. Neurosurgery 2005; 56 (5): E1157.*