

Case Study

Synovial Juxtafacet Cyst of the Spine Presenting as Radiculopathy

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ABSTRACT

Juxtafacet cyst of the spine is a rare occurrence. Reports have described them as synovial cysts; ganglion cysts; extradural cysts as well as degenerative cysts of the spine. Patients may present with radicular pain, motor deficits, sensory disturbances, cauda equina syndrome and even myelopathy. Lumbar juxtafacet cysts may be confused clinically with prolapsed intervertebral discs or other conditions involving nerve root compression such as arachnoid cysts, ependymal cysts, dermoid cysts or teratomatous cysts. In the case of the juxtafacet cyst, surgical excision is usually curative. We report a case of spinal synovial juxtafacet cyst found intraoperatively in a case that was preoperatively diagnosed as prolapsed intervertebral disc. Synovial juxtafacet cyst of the spine should be considered as one of the differential diagnoses in patients, especially in older patients, presenting with nerve root compression.

CASE REPORT

A 54-year-old man presented with a 6-month history of low back pain and radiating pain down his left lower limb. There was no history of trauma, fall or undue stress to the spine prior to the development of the pain. He also complained of paraesthesia over the lateral aspect of his left leg and the sole of the left foot. There were no urinary or bowel disturbances. General examination of the patient was unremarkable. Examination of the lower limb revealed a reduced sensation over the L5 and S1 dermatomes. There were no motor deficits in the lower limbs and per-rectal examination was unremarkable.

All the routine blood investigations done on the patient were noted to be within normal limits. An MRI examination was performed (Figure 1) and was reported as prolapsed intervertebral discs involving the L4/L5 and the L5/S1 levels. A microdiscectomy was performed on him and intraoperatively, a cyst arising from the left L4/L5 facet joint was noted compressing on the dura and the left L5 nerve root. The cyst was excised completely and was sent for histopathological examination. Histopathological examination showed fibrovascular connective tissue and vascularised hyperplastic synovial tissue with occasional fibrin deposition, interpreted as hyperplastic synovium (Figure 2). Postoperatively, at 5 months follow-up, the patient had recovered fully from the pain and the sensory deficit.

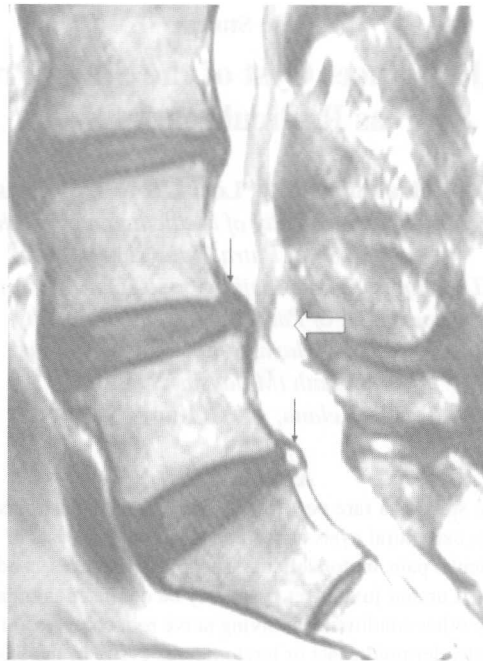


Figure 1. Sagittal MRI of the patient showing the prolapsed discs at L4/L5 and L5/S1 levels (thin arrows) and the juxtafacet cyst close to the left L4/L5 facet joint (bold arrow) compressing on the dura

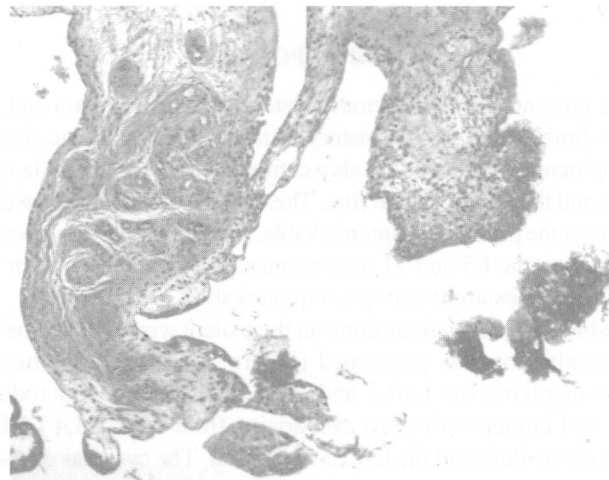


Figure 2. Photomicrograph of the cyst lining showing vascularised hyperplastic synovial tissue with fibrin deposition (H&E x 50)

DISCUSSION

Spinal juxtafacet cysts^[1] were so-termed to depict their close anatomic relationship to the facet joint capsule. Fortunately, apart from being rare in incidence, these cysts are commonly located over the dorsal aspect of the joint and do not cause any neurological deficits and are found only incidentally at surgery^[2]. Those arising from the ventral aspect of the facet joint may cause nerve root compression and even myelopathy in those affecting the cervical region^[1-3]. These cysts can further be subdivided into synovial and ganglion cysts. Synovial cysts are differentiated from ganglion cysts histologically by the absence of synovial lining in the latter; however, distinguishing between these two entities is not prudent as far as treatment modality is concerned^[1].

The patient described in this case report only had sensory disturbances that abated after surgical excision was performed. Essentially, the clinical picture in patients with spinal juxtafacet cyst is dictated by the level of vertebral involvement; the amount of motor and sensory involvement is quite variable. In one review, 36% of patients had motor involvement, 31% had sensory disturbances, 58% had a positive straight-leg-raising sign and approximately 17% of them had no neurological deficits^[2].

Clinically, it is difficult to distinguish lumbar juxtafacet cyst of the spine from prolapsed intervertebral disc as both conditions may present in the same manner. As in this particular patient, a diagnosis of prolapsed intervertebral disc was made preoperatively, and a juxtafacet cyst was found to cause the radiculopathy instead of a prolapsed disc. The fact that this patient's age is above 50 years old should prompt us to consider the latter as one of the possible diagnoses, as other authors have reported similar findings in their patients who were mostly above 50 years of age^[1-3]. Other differential diagnoses such as arachnoid cysts, ependymal cysts, dermoid cysts or teratomatous cysts should also be ruled out¹.

Even though plain radiographs and myelography are respectively non-diagnostic and non-specific, the combination of these two imaging techniques may be highly suggestive of an extradural cyst^[1]. A CT scan may help to detect gas in the cyst which suggests communication between the cyst and the facet joint or a degenerated disc^[3]. An MRI may show a smooth, well-circumscribed, fluid-filled cystic mass adjacent to a degenerated facet joint or disc^[1,3]. Figure 1 demonstrates these features clearly. In this patient, the findings related to the cyst were overlooked preoperatively and were only noted on the MRI in retrospect. The cyst noted on this sagittal cut (Figure 1) appeared to be in continuity with the prolapsed disc at the L4/L5 level when viewed on the axial cuts. This may explain why the cyst was undiagnosed on the MRI by both the surgeon and the radiologist.

The definitive treatment for a spinal juxtafacet cyst is surgical excision^[1-3]. A good outcome can be expected after excision, with 95% of patients gaining good functional recovery and relief of symptoms^[2]. The possibility of recurrence can be minimized if a proper excision is performed^[1,3].

In conclusion, it is possible that spinal juxtafacet cyst may be less uncommon than reported as this condition is, more often than not, found incidentally during a procedure meant for a different pathology. This disorder should be considered as one of the possible diagnoses in patients presenting with radiculopathy, especially in patients over 50 years of age.

REFERENCES

- [1] Heary RF, Stellar S, Fobben ES. Preoperative diagnosis of an extradural cyst arising from a spinal facet joint: a case report. *Neurosurg* 1992;30(3): 415-7.
- [2] Pendleton B, Carl B, Pollay M. Spinal extradural benign synovial or ganglion cyst: case report and review of the literature. *Neurosurg* 1983;13: 322-6.
- [3] Shima Y, Rothman SL, Yasura K *et al*. Degenerative intraspinal cyst of the cervical spine: case report and literature review. *Spine* 2002; 27(1): E18-22.