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Case Report

Contralateral Juxtafacet Cyst Development after the Spontaneous Resolution of a Previous Facet Cyst

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Juxtafacet cysts are implicated in neural compression. Thus far, it is known that surgical removal is the definitive treatment for symptomatic juxtafacet cyst because spontaneous regression is rare, and the failure rate of conservative treatment is high. We have reported a rare case of right-sided juxtafacet cyst development after the spontaneous resolution of contralateral left-sided facet cyst. The left-sided facet cyst resolved spontaneously without surgical treatment, but a juxtacyst developed on the contralateral facet on the right side, as illustrated on 4-year follow-up magnetic resonance images. To the best of our knowledge, this is the first report of newly developed contralateral juxtafacet cyst after spontaneous regression. Herein, we have discussed the natural history and the management of this rare case.

Key Words : Lumbar · Facet · Cyst.

INTRODUCTION

Advances in imaging have facilitated the diagnosis of intraspinal cystic lesions in addition to lesions in the facet joint of the lumbar spine. The symptoms of lumbar juxtafacet cyst include unilateral or bilateral radiculopathy, as reported in 55–97% of the cases[5,6,8,11,16]. The pathogenesis of facet cyst is closely related to the degenerative instability of the lumbar spine and the degenerative changes of the facet joints. The cysts are formed because of arthrotic disruption of the facet joint and are commonly associated with degeneration of joints, typically observed in mobile segments[3]. Good results have been reported after surgical excision of the symptomatic lesions. There are limited data, however, on nonsurgical management of these cysts, and only a few studies have reported spontaneous regression of these lesions[7]. We report a rare case of a patient who experienced spontaneous regression of symptomatic lumbar facet cyst and in whom a new contralateral juxtafacet cyst developed after 4 years.

CASE REPORT

A 58-year-old male patient was admitted to our institute for intermittent low back pain and radiating pain in the right leg. He had been treated with conservative treatment for left facet cyst at the L3–4 level 4 years ago. A plain radiographs showed mild instability on the L3–4 level (Fig. 1A, B). Magnetic resonance (MR) imaging obtained 4 years ago revealed an extradural mass consistent with a facet cyst, arising from the medial left L3–4 facet joint, that compressed the posterolateral aspect of the dural sac and showed combined stenosis (Fig. 1C, D). He refused to undergo the recommended surgical treatment. In compliance with his wishes, he was administered conservative treatment. His symptoms resolved gradually. Approximately 4 weeks after presentation, he experienced near-total resolution of his symptoms. After 4 years, he revisited the hospital without evident acute or chronic back injury. He complained of enduring low back pain and of radiating pain in the right leg. MR image of the lumbar spine showed an intraspinal extradural mass, near at the medial right L3–4 facet joint, compressing the posterolateral aspect of the dural sac, and combined stenosis, but the previous left facet cyst had regressed completely (Fig. 2). He

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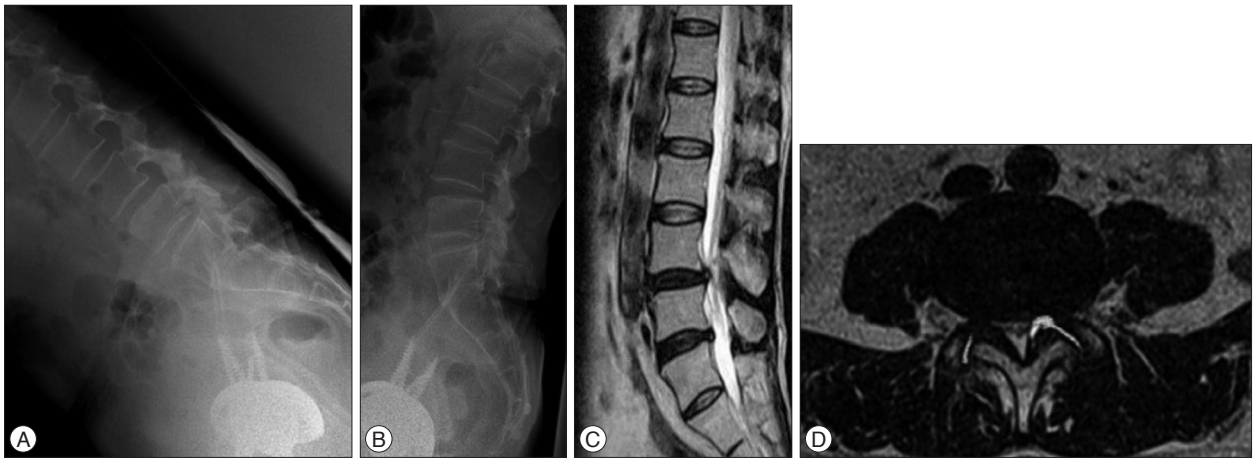

Fig. 1. A and B : Simple dyanmic flexion and extension views show mild instability at the L3–4 level. C and D : T2-weighted magnetic resonance images showing cyst on the left L3–4 facet joint and compression of the L5 root.

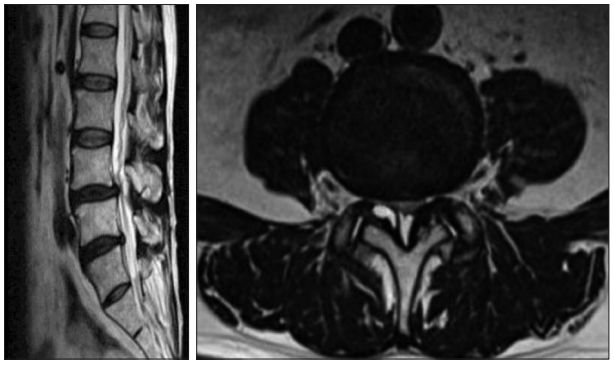

Fig. 2. T2-weighted magnetic resonance images taken after 4 years show the presence of a cyst on the right L3–4 facet joint. The previous left facet cyst is absent.

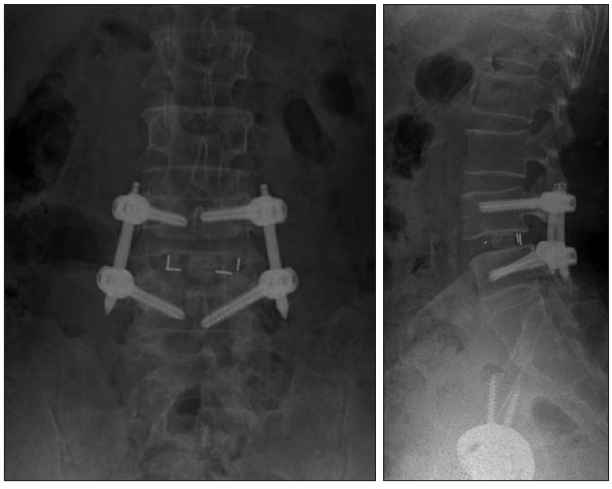

Fig. 3. Simple radiographs showing interbody fusion of L3–4 with percutaneous screw fixation after surgery.

had received conservative treatment, which included anti-inflammatory medication, muscle relaxants, and physical therapy. This time, however, the pain was progressive and was unresponsive to conservative treatment. We surgically excised the juxtafacet cyst and performed interbody fusion of L3−4 and percutaneous screw fixation for combined spinal stenosis (Fig. 3). The patient's symptoms resolved immediately after surgery, and the postoperative course was uneventful. At 12 months after surgery, he complained of mild back discomfort but remained free of leg pain.

DISCUSSION

Juxtafacet cysts, also known as synovial or ganglion cysts, are rare intraspinal lesions that may elicit symptoms of disc herniation or stenosis. The term "juxtafacet cyst" was initially used by Kao et al.[7] to describe both synovial and ganglion cysts that are adjacent to facet joint or arise from or grow into the ligamentum flavum. The exact etiology of intraspinal juxtafacet cyst remains unknown[14]. These lesions have been arised most frequently in patients aged above 50 years and have severely degenerated facet joints and instability. In the lumbar spine, juxtafacet cysts appear in association with facet joint degeneration and juxtafacet cysts are thought to be caused by repetitive trauma and microinstability, thereby leading to focal weakness in the facet capsule[3,9,15]. The natural history of juxtafacet cysts is unknown, and there is scant literature on their conservative treatment. Surgical removal has been considered the definitive treatment for symptomatic intraspinal cysts because conservative treatment is not widely documented, and the reported success rates for conservative treatment are substantially lower than those for surgical treatment[4,10,12,13]. However, extensive conservative treatment should always be considered as the first therapeutic option, in case of no severe neurological deficits. Some cases of facet cysts spontaneously regress with corresponding changes in clinical symptoms. One plausible explanation for this observation is cyst rupture, which occurs in other regions of the body in conjunction with radiographically documented resolution of lesions. Another possible explanation for cyst regression is the alteration of the local forces driving the cyst formation[4]. In our case, at first admission, the patient had spinal

stenosis with mild instability and left facet cyst at the same level. According to the patient's wishes, conservative treatment was administered that resolved his symptoms. After 4 years, he visited our institute again for radiating pain in the right leg. MR images showed that the left facet cyst had regressed and that a contralateral right facet cyst had developed. As conservative treatment had failed to improve his symptoms, surgical treatment was performed for removal of the facet cyst and coexistent spinal stenosis. It is believed that juxtafacet cysts grow owing to facet joint instability, which increases intra-articular pressure and induces herniation of the synovium through a focal area of weakened joint capsule[1,3]. Symptomatic juxtafacet cysts can be treated effectively with a minimally invasive microsurgical approach. When the cysts are associated with spondylolisthesis or stenosis, they may need to be stabilized in order to minimize the risk of instability. In one study, patients with persistent low back pain and radiating pain did not experience relief despite aggressive conservative treatment, and fusion surgery was found to be necessary for alleviating their symptoms[2].

CONCLUSION

We report a rare case of a patient who experienced spontaneous regression of facet cyst and in whom a contralateral juxtafacet cyst developed. Accordingly, careful observation should be conducted in case of symptomatic facet cyst.

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