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The lateral recess syndrome associated with lumbar disc disease in a 20 - years - old man: a case report

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Introduction

There are a lot of causes of spinal cord and nerve root compression such as spinal stenosis, lateral recess stenosis (LRS), tumoral processes and trauma. Bailey and Casamajor (1) described spinal cord and nerve root compression caused by hypertrophic changes of the bony structures surrounding the spinal canal.The most common cause of lateral recess stenosis is hypertrophy of the facet joint (2). LRS is frequently seen older than 50 years (2). But, lumbar disc disease is frequently seen younger then 40 years. In this study, we presented a 20 year old patient who had lateral recess syndrome associated with lumbar disc disease.

Case report

A 20 - years - old man admitted with low back pain and right leg pain to our clinic. The duration of symptoms was approximately two years.There were motor weakness in dorsoflexion of the right ankle (1/5), hypoesthesia in the right L4,L5,S1 dermatomes and intermittent neurogenic claudication.

Plain X-ray films of the lumbar spine showed lateral recess stenosis and facet hypertrophy at L5 level on the right side. Computed tomography (CT) scan demostrated lateral recess stenosis due to hypertrophy of the L5 superior articular facet and posterolateral disc herniation at the L4-L5 level on theright side (Figure1 and 2).

Figure1: Axial CT shows posterolateral disc herniation at L_{4-5} level on the right side.

Operation was done under endotracheal general anesthesia and semiflexed prone position. Right L4 and L5 hemipartial laminectomy, 1/3 medial fasetectomy at L5, L4-L5 discectomy were performed. Postoperative stage was uneventful. The patient's complaints improved.

Discussion

The most common cause of the lateral recess stenosis is hypertrophy of the facet joint. A lateral recess height of less than 3mm is suggestive and of less than 2mm is diagnostic of stenosis.

The characteristical feature of a LRS is that the radicular symtoms occur especially when the patient stand or walks (2). The objective neurological findings in patients with a LRS are few and usually mild. The patient's symptoms are usually relieved by squatting, sitting with the dorsoflexed forward, and lying down. This is in contrast to the classic presentation of an anterior lumbar nerve root compression in patients with lumbar disc herniation. In the present study, the patient was not relieving by squatting, sitting with the dorsoflexed forward and lying down for lumbar disc herniation associated with LRS.

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Plain X-ray films of the lumbar spine usually show evidence of hypertrophic osteoarthritic changes involving the facet joints. The introduction of CT, magnetic resonance imaging and high-resolution CT for the evaluation of the lumbar spinal canal, nerve root and the adjacent facet joints has provided a better understanding of the normal and pathological anatomy of the lateral recess (3,4).CT showed posterolateral disc herniation at the L4-L5 level on the right side associated with LRS at the L5 level on the right side.

Figure 2. Axial CT demostrates lateral recess stenosis due to facet joint hypertrophy at L5-S1 level on the right side.

Patients with LRS can be treated conservatively with a lumbosacral brace. Wearing a back support will usually delay the onset of radiculopathy as the patient stands or walks.

In most case of incapacitating pain and especially in patients who have begun to exhibit a neurological deficit, surgical treatment is indicated. A number of operative procedures in the LRS have been described (2,5,6,7,8,9). Surgical treatment consists of laminectomy and/or removal of the hypertrophied portion of the facet joint lying immediately dorsal to the compressed nerve root. We performed both L5 and L4 laminectomy with foraminotomy and removal of 1/3 medial facet joint at L5 level associated with excision of disc herniation at right L4-L5 level

In conclusion, both LRS and lumbar disc disease are an important cause of painful and incapacitating radiculopathy. The results of surgical treatment of LRS and lumbar disc disease are excellent as in our case.

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