

Case Report

Unusual thoracic myelopathy caused by posterior osteophytes of vertebral body in a young adult male

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ABSTRACT

A rare case of thoracic myelopathy due to posterior osteophytes of vertebral body without disc degeneration in a young adult male is described. This 25-year-old male presented with a worsening numbness and pain in the right leg and radiological study revealed posterior osteophytes

at T10/11 compressing subarachnoid space. The resection of osteophytes with anterior interbody fusion improved his symptoms. (Rawal Med J 2012;37:451-452).

Key words

Posterior spurs, thoracic myelopathy, posterior osteophytes.

INTRODUCTION

Multiple disease processes are known to cause extradural compression of the thoracic spinal cord and nerve roots. However, spondylosis, which frequently compresses cervical cord in the elderly patients, has rarely been reported in the thoracic myelopathy of a young adult. We report here a 25-year old male who presented with posterior osteophytes of vertebral body causing myelopathy at T10/11 and was treated successfully by resection of osteophytes with anterior interbody fusion (AIF).

CASE HISTORY

A 25-year-old young male electronics technician presented with a two year history of worsening numbness in the right lower extremity. He had no history of trauma. He was seen in the out-patient clinic of the general orthopedic surgeon and diagnosed as lateral femoral cutaneous nerve injury.

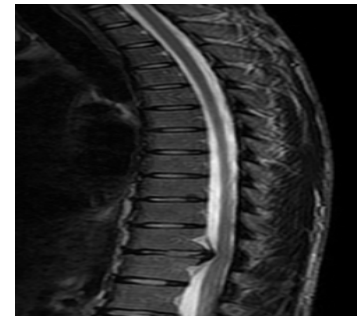
Fig. 1. Sagittal postmyelogram CT scan showing the posterior spurs at T10/11 level with spinal cord compression.



The numbness had not been responded to conservative treatment and he was referred to our clinic. In the last 6 months, he had

suffered from pain as well as numbness on the right thigh in the supine position which frequently disturbed his sleep. He had no history of sporting activity.

Fig. 2. Sagittal T2-weighted MRI showing anterior indentation of spinal cord and almost normal intervertebral disc intensity.



On examination, no neurological abnormality was evident.

Postmyelogram sagittal CT scan of thoracic spine demonstrated posterior osteophytes at T10/11 with compression of the subarachnoid space (Fig.1). Intervertebral disc herniation and disc degeneration at T10/11 were not demonstrated on MRI (Fig. 2). There were no other spondylotic changes in cervical, thoracic and lumbar regions.

Fig. 3. Sagittal CT scan taken 2 years after surgery, showing successful bony fusion and resection of posterior spurs.



He underwent the resection of osteophytes with AIF at T10/11 via extrapleural approach. T10/11 intervertebral disc was removed and posterior osteophytes at T10 and T11 were resected. One titanium mesh cage (Pyramesh, Medtronic, Memphis, MS) was filled with autogenous cancellous bone from the iliac crest and inserted intradiscally. Two years after the surgery, sagittal CT scan revealed solid interbody fusion at T10/11 (Fig. 3). The pain and numbness in the right lower extremity were resolved and the patient was able to return to his job as an electronics technician.

DISCUSSION

Thoracic myelopathy is still an uncommon disorder compared with cervical myelopathy. In the Japanese, ossification of ligament flavum (OLF) is the most common contributing factor, seen in approximately 50%. Among the other contributing factors, ossified posterior longitudinal ligament (OPLL), intervertebral disc herniation (IDH), OLF with OPLL showed similar frequency (10%, respectively), whereas thoracic myelopathy due to posterior osteophytes is encountered infrequently.¹

A solitary bony osteophyte causing myelopathy in thoracic region has not previously reported except reports by Abhaykumar et al² and by Chana JS³ et al. However, they presented a case of osteophyte originated from facet joint in aged patients. To our knowledge, this is the first report to describe the myelopathy due to posterior osteophytes of thoracic vertebral body in a young adult male, together with a successful clinical outcome by AIF.

Although the etiology is not known, osteophyte without disc degeneration in this case is interesting. Osteophyte formation in the vertebral body is a well-documented phenomenon that is associated with degeneration and there is wide agreement about the close association of disc degeneration with osteophyte formation. On the contrary, we occasionally encounter osteophyte in the absence of disc space narrowing. The report by Oishi et al revealed that osteophyte formation and disc space narrowing are not always closely correlated, as identified by the prevalence of osteophytes without disc space narrowing in about 30%.⁴ In addition, Sakai et al⁵ described that the 47Arg polymorphism in the alcohol dehydrogenase2 may act to suppress osteophyte formation unaffected by disc

degeneration. It is not clear our patient had suffered from osteophytes without disc degeneration. He had no contributing factors such as high level sporting activity, previous spine trauma and metabolic diseases which influence the development of osteophyte. Considering these facts, together with radiological findings, in this case suggest the potential for osteophyte formation by factors other than spinal degeneration, although a detailed assessment of the pathomechanism of the posterior osteophytes in our patient required the thoracic spine X-ray in his childhood.

Generally, surgical decompression is the treatment of choice in these patients. The optimal approaches for thoracic myelopathy by spondylotic change, however, remain uncertain because there are fewer patients with this form of the disorder than those of cervical or lumbar disorders. An anterolateral extrapleural or posterolateral approach has been reported, both of which have been associated with numerous intraoperative complications and postoperative morbidities. We chose AIF for this case because of the median location of posterior osteophytes, direct visualization of the spur for radical curettage and less invasion of the back muscles. As a result, successful outcome was obtained. In summary, although encountered infrequently in young adults, awareness of this pathologic condition as a cause of continued leg pain or numbness is necessary for reducing the delay of treatment and deterioration of the symptoms.

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Rec. Date: Aug 10, 2012 Accept Date: Sep 24, 2012

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