



An Atypical Case of Lumbar Scheuermann's Disease

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Abstract

Scheuermann disease's true etiology still remains unknown, but there appears to be a strong genetic as well as an environmental contribution. The kyphotic deformity is frequently attributed to "poor posture" which is still resulting in delayed diagnosis. Because of its natural history which has not been clearly defined, treatment modalities and indications remain debated. However, Scheuermann also described changes occur in the disc spaces of the spine which can lead to back pain, there are still some confusions in terminology, diagnosis and the mangement of the disease. We aimed to remind that miscellaneous disease with a brief and different case of report.

Keywords: Lumbar, Scheuermann's Disease, back pain

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Introduction

Scheuermann's disease (juvenile kyphosis dorsalis) is a structural kyphosis of the thoracic spine initially described by Scheuermann in 1921. It is a common disorder of the adolescents (5-8 %) which may result in spinal pain and cosmetic deformity, in addition to thoracic disc herniation and premature degenerative changes, disease also may predispose to irregularities of the vertebral end plates, schmorl's nodes and disk-space narrowing. Despite several theories have been suggested involving local osteochondritis, release of excess growth hormone, defective formation of collagen fibrils with subsequent weakening of the vertebral end plates and juvenile osteoporosis, the cause of Scheuermann's disease still remains unknown [1,2]. Symptoms like fatigue, pain and local tenderness usually occurs in puberty. Patients may be unaware of that they have a deformity or kyphosis related with scheuermann's disease [3]. Mid or lower thoracic spinal regions are usually found to be affected with no other laboratory findings. In addition to degree of the findings, therapy also depends on the patient's age. Rehabilitation exercises analgesics, operations for stabilization with a Milwaukee brace or Harrington instruments may be tried [3]. In this report a patient with Scheuermann's disease with its different radiologic findings was presented.

Case

We report the case of a 17 year-old patient with two years of back pain. There was no history of trauma, morning stiffness and night pain. Physical examination was nearly normal except the paravertebral muscular spasm and painful trunk movements (flexion-extension). Laboratory tests including C-reactive protein and erythrocyte sedimentation rate were all in normal range. Lateral radiography showed multiple Schmorl's nodes (long arrow), disk-space narrowing, and limbus vertebra (short arrow) in the lumbar spine (Figure 1). T1- and T2-weighted sagittal MR images revealed multiple Schmorl's nodes, disc-space narrowing, and irregularities of the thoracic and lumbar (Figure 2a, 2b) vertebral end plates. There is also a disc herniation at L1-2, with compression of thecal sac. The sharp angulation described in classic Scheuermann was not observed in this patient. In addition to physical therapy and oral paracetamol 500 mg tablet three times a day, lumbar and abdominal muscles strengthening exercises program were also planned and performed. A considerable reduce in pain was observed after 2 weeks of therapy. After 3 weeks of oral paracetamol and physical therapy drug

was stopped for successful control of complaints. A 3- month follow up program was planned and there was no significant complaint of back pain after three months.



Figure 1. Lateral thoracolumbar graph of the patient, marked changes in vertebrae (arrows)



Figure 2a. T1 weighted thoracolumbar MRI of the patient

Figure 2b. T2 weighted thoracolumbar MRI of the patient

Discussion

Scheuermann's disease was originally defined as a growth disturbance of the thoracic spine, characterised by a rigid hyperkyphosis due to wedge-shaped vertebral bodies [4]. It occurs commonly in adolescents and affects most often thoracic spine [1,5]. But Scheuermann may also involve the lumbar spine and when lumbar vertebrae affected disease called as Lumbar Scheuermann's disease. T10-L4 vertebrae were usually affected in this form. Lumbar Scheuermann's disease classified into two main forms: classical form which is similar to thoracic involvement and the atypical lumbar form mainly characterized by anterior Schmorl's nodes, disk-space narrowing and endplate irregularities in only one or two vertebrae, but no anterior wedging of the vertebral bodies [5,6]. Atypical form may be more painful than the classic one [6,7]. Conservative management may provide a good survey in lumbar Scheuermann's disease but the evolution still remains unknown [7]. A 25-year follow-up of 481 teenagers whom 58 % percent had Scheuermann's disease showed an increased prevalence

of low back pain during adolescence which was significantly reduced over the years [8]. Patients may have recurrent periods of low back pain in adulthood [6]. Besides other lumbar vertebrae L5 vertebrae were also affected in this case. Patient's findings were also varied in absence of sharp angulation described in classic Scheuermann. Despite L1 and L3 vertebrae are the most commonly affected and well known places for Lumbar Scheuermann's disease, in this case interestingly whole vertebrae from T10 to L5 were affected. To the best of our knowledge this is the first report presenting an atypical lumbar Scheuermann's disease. Although the treatment of Scheuermann's disease is still a controversial, management of the disease generally includes rehabilitation, bracing, physical therapy and surgery in carefully selected patients with neurological findings. Exercises causing excessive pressure and repetitive strains on the spine, such as weight lifting and rugby should be avoided for all cases [7]. In adolescent subjects presenting with low back pain Scheuermann's disease should be considered and direct radiography and MR imaging should be asked.

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