

## A diffuse idiopathic skeletal hyperostosis case misdiagnosed as ankylosing spondylitis

Gokhan Alkan<sup>1</sup>, Arif Gulkesen<sup>2</sup>, Gurkan Akgol<sup>2</sup>, Canan Gur<sup>2</sup>, Arzu Kaya<sup>2</sup>

<sup>1</sup>Tunceli State Hospital, Department of Physical Medicine and Rehabilitation, Tunceli, Turkey

<sup>2</sup>Firat University, Faculty of Medicine Department of, Physical Medicine and Rehabilitation, Elazig, Turkey

### Abstract

Diffuse idiopathic skeletal hyperostosis (DISH) is a rheumatologic disease with unknown etiology characterized with ossifications of column vertebralis. Signs and symptoms include stiffness, pain and movement limitation of spine. The radiographic diagnostic criteria in the spine include osseous bridging along the anterolateral aspect of at least four vertebral bodies, relative sparing of intervertebral disc heights with minimal or absent disc degeneration, and absence of apophyseal joint ankylosis and sacroiliac sclerosis. The diagnosis of DISH can be confused with ankylosing spondylitis (AS) because of some common clinical and radiological characteristics. In this paper a diffuse idiopathic skeletal hyperostosis case misdiagnosed as ankylosing spondylitis is reported.

**Keywords:** Diffuse Idiopathic Skeletal Hyperostosis; Ankylosing Spondylitis; Vertebral Ossification.

### INTRODUCTION

Diffuse idiopathic skeletal hyperostosis (DISH) is a disease characterized with osteophyte like new bone formation of column vertebralis, which was originally described by Forestier and Rotes-Querol in 1950 (1). The prevalence of DISH is increasing along with the age and typically affects males over 60 years of age (2).

The thoracic vertebral column is frequently affected and patients can suffer from pain, stiffness and functional deficits. Ankylosing spondylitis (AS) is a chronic inflammatory joint disease characterized by stiffening and fusion of the spine and sacroiliac joints. The disease affects the peripheral joints less often and frequently affects young adult males. Patients can suffer from inflammatory pain, stiffness and functional deficits (3). These symptoms are confused with diffuse idiopathic skeletal hyperostosis.

### CASE

55 year old female patient presented to our outpatient clinic with chief complaint of resistant left hip and back

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#### Corresponding Author

Gurkan Akgol, Firat University, Faculty of Medicine  
Department of, Physical Medicine and  
Rehabilitation, Elazig, Turkey  
E-mail: [drgurkanakgol@gmail.com](mailto:drgurkanakgol@gmail.com)

pain which is occurred 4 years ago. She reported mechanical pain and morning stiffness less than 30 minutes, without night sweat, fever and loose of weight. She didn't report any trauma story.

1 year ago she was undergone surgery with the herniated nucleus pulposus diagnosis resulted with no relief of symptoms. And after 6 months golimumab and etanercept treatments were initiated respectively with the diagnose of AS resulted with no relief of symptoms again. On physical examination her lumbar spine active motions were painful and limited in the end of the range of motion. Schober and modified schober tests were negative and chest expansion was normal. Neuromotoric and vascular system examinations were normal.

Laboratory examinations showed normal results of whole blood count, erythrocyte sedimentation rate, thyroid, liver and kidney function tests, serum C-reactive protein and tumor markers level. She was HLA-B27 negative and her sacroiliac joint magnetic resonance imaging result showed no inflammatory signs. Two sided X-ray examination of thoracolumbar spine showed evidence of mild-to-moderate degenerative changes between T8-L2 vertebrae associated with osseous ridging.

Corpus heights and intervertebral disc distances were normal. The diagnosis was supported by thoracolumbar tomography. After DISH diagnosis anti-TNF treatment is stopped and she is included in physical therapy programme in our clinic and the symptoms decreased.

## DISCUSSIONS

DISH is a rare disease of florid hyperostosis of the vertebral spine with unknown origin (4). These ossifications of the common anterior, lateral and posterior intervertebral ligaments as well as of the ligamentum flavum create intervertebral bridges, which are responsible for the potential signs of the disease: back and neck pain and stiffness, spinal cord compression at the cervical level and lumbar canal stenosis at the lumbar level. The bony epiphyses are the sites of bony appositions, or enthesophytes (5).

According to Resnick and friends, the radiographic diagnostic criteria in the spine include: 1) osseous bridging along the anterolateral aspect of at least four vertebral bodies; 2) relative sparing of intervertebral disc heights, with minimal or absent disc degeneration; and 3) absence of apophyseal joint ankylosis and sacroiliac sclerosis (6). Ankylosing spondylitis is the prototype for the seronegative spondyloarthropathies. The disease causes progressive inflammation of entheses which mostly affecting the bones and joints at the base of the spine and sacroiliac joint. Peripheral joint involvement is not common. Symptoms usually begin in the late teens or third decade. It generally first presents with morning stiffness and a dull ache in the low back. The HLA-B27 gene is present in 90% of patients. Most patients also have an elevated serum C-reactive protein level and sedimentation rate (3,7).

Radiographs help establish the diagnosis by showing erosions, sclerosis, squaring of the vertebral body and bony bridging between vertebrae via syndesmophytes. However the most common and initial radiological

finding is sacroiliitis which can be diagnosed via magnetic resonance imaging (3,7).

In conclusion these two diseases with similar symptoms need different treatments. Symptoms of mechanical pain and short lasting morning stiffness, examination, laboratory and radiological findings of the patient were compatible with our diagnosis.

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