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Vaka Sunumu / Case Report

Diffuse Idiopathic Skeletal Hyperostosis, An Incidental Diagnosis Due To Trauma – A Case Report

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Abstract:
Diffuse idiopathic skeletal hyperostosis (DISH) is an ossification of the vertebral body's anterior and lateral side. This is a rare entity and also known as Forestier's disease, rarely associated with systemic diseases such as diabetes mellitus and obesity and occurs mostly in the fifth and sixth decade of life and in males. This, reports a case of a 72 years man having the DISH syndrome who suffering from type 2 diabetes.
Key words: *Diffuse idiopathic skelethal hyperostosis, emergency department, trauma*

Abstract:

Travmaya Bağlı Bir İnsidental Tanı, Diffüz İdiopatik İskelet Hiperostosisi – Bir Vaka Sunumu

Diffüz idiyopatik iskelet hiperostozu (DISH), vertebra korpuslarının anterior ve lateral kısımlarının ossifikasyonudur. Forester Hastalığı olarak da bilinen bu nadir durum, nadiren diabetes mellitus ve obezite gibi sistemik hastalıkalrla ilişkilidir ve sıklıkla yaşamın 5. ve 6. dekatlarında erkeklerde görülür. Bu vakada, tip-2 diabeti olan ve DISH sendromu saptanan 72 yaşında bir erkek hastanın vakasını sunduk.
Anahtar kelimeler: *Diffüz idiopatik iskelet hiperostozisi, acil servis, travma*

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INTRODUCTION

Diffuse idiopathic skeletal hyperostosis (DISH) is an ossification of the vertebral body's anterior and lateral side **(1,2).** This is a rare entity and also known as Forestier's disease, rarely associated with systemic diseases such as diabetes mellitus and obesity and occurs mostly in the fifth and sixth decade of life and in males **(3).** The osteophytes are usually seen in the thoracic, lumbar and cervical vertebrae (97%, 90%, 78%) **(4).** Most of patients are asymptomatic, dysphagia is the most common symptom due to compression of esophageus by anterior osteophytes at the level of C4-5. Cervical subaxial pain, stiffness and decreasing range of motion of the cervical spine are the other complains **(5).**

This, reports a case of a 72 years man having the DISH syndrome who suffering from type 2 diabetes.

CASE REPORT

A 72-year-old male presented to our emergency department with backache and neck pain. He was fall down due to a traffic accident while standing in a bus. His had type II diabetes that treated with oral agents. On physical examination, GCS score was 15, pulse rate was 74/min, BP was 176/86 mmHg and SpO2 was 100%. There was a mild tenderness on palpation of cervical vertebras. His abdomen, respiratory system and cardiovascular system were normal. There was no focal neurological deficit on central nervous system examination. All laboratory tests were normal.

Cervical computed tomography (CT) revealed bony ankylosis from C2 to C7. And there was a suspected fracture on C3 (Fig A). Axial images showedat C3 to C7 level. Sagittal multiplanar reconstruction images also showed this indentation (Fig B and C).

The patient was referred to the neurosurgery clinic, and they offered out-patient follow up with a soft cervical coller. The patient treated with nonsteroidal anti-inflammatory drugs (NSAIDs) for symptoms.

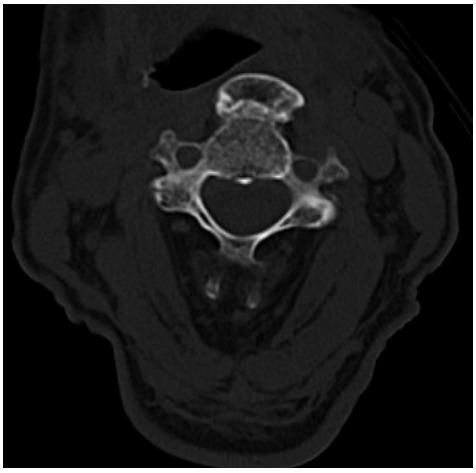

Figure A.

Figure B.

Figure C.

Figures (A) Axial computerized tomography (CT) image showing large flowing syndesmophytes (black arrow). **(B)** Sagittal reconstructed CT image showing anterior syndesmophytes (arrowheads). **(C)** Coronal reconstructed CT image showing right and left lateral syndesmophytes.

DISCUSSION

Diffuse idiopathic skeletal hyperostosis (DISH) is a clinically common pathological condition but usually unrecognized and misdiagnosed by clinicians. It was described by Forestier and Rotes-Querol (1950) firstly. They explained the process as the formation of a continuous bony outgrowth alongside the right anterior aspect of the thoracic vertebrae **(6).** DISH is characterized by calcification and ossification of the tendons, fascia and ligaments. It's estimated prevalence is about 10% **(7).** It mostly seen at ages of 65-70's and male gender **(8).** Lumbar spine is the most commonly affected vertebrae and cervical spine is less involved. Rarely, dysphagia and dysphonia are seen when cervical spines are affected **(9)**. If there is cervical spine involvement, it can be lead to neurological symptoms. This is due to spinal canal narrowing secondary to atlantoaxial subluxation of the cervical spine and ossification of anterior and posterior longitudinal ligaments, and reduced flexibility of the spine **(4).**

This rare entity is diagnosed incidentally cause of usually been asymptomatic. The most common symptoms of DISH are pain and stiffness, dysphagia and decreased range of motion **(4).** Obesity and type 2 diabetes mellitus are major risk factors but it is not very commonly diagnosed in practice **(9).** Hypervitaminosis A, high body mass index and hyperuricemia are other risk factors **(4, 10, 11).** Clinically, the presence of DISH, has been connected with a disturbance of glucose and insulin metabolism, hypertension, dyslipidemia and obesity associated with a rich diet **(6).** The suggested pathogenesis of DISH is ossification and new bone formation are the result of abnormal osteoblast cell growth/activity of ligamentous region's of bones **(12).** Studies have reported that patients with DISH have high growth hormon and insulin levels **(13).** It is showned that approximately 4% of the general population have hyperostotic changes and these changes are present in 25% of the diabetic population **(14).**

“Diagnostic criteria for spinal involvement of Forestier syndrome are: calcification and ossification within the anterior longitudinal ligaments of at least four contiguous vertebral bodies; preservation of disc space height; normal or only mildly sclerotic apophyseal joints; sacroiliac joints that are normal or demonstrate para-articular osteophytes only in the upper third” **(8).**

Diagnostic methods include X-ray, CT, MRI (magnetic resonance imaging), videofluoroscopy, and endoscopy. With videofluoroscopy, evaluation of swallowing allows

a differential diagnosis of dysphagia. If endoscopy will be choosen, flexible or rigid endoscopy must be performed carefully because of the risk of trauma due to the osteophytes. CT and MRI are necessary for diagnosis and avoidance of complications **(10, 15).**

The management is mostly conservative as NSAID and steroid therapy. In patients with severe and progressive symptoms, surgery could be an appropriate choice **(16, 17).**

CONCLUSION

DISH, even though rare, should be kept in mind in the differential diagnosis for the patients, especially who have diabetes, with a complaint of neck pain or dysphagia. It is important that emergency physicians are familiar with the diagnosis and treatment of the cervical manifestations of this disorder.

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