

## Neck pain and dysphagia secondary to diffuse idiopathic skeletal hyperostosis of the cervical spine: A case report

### Diffüz idiyopatik iskelet hiperostozuna ikincil gelişen boyun ağrısı ve yutma güçlüğü: Olgu sunumu

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#### Abstract

Diffuse idiopathic skeletal hyperostosis (DISH), also known as Forestier disease is characterized by calcification and ossification of the soft tissues, mainly ligaments and entheses. DISH is a systemic non-inflammatory disease of unknown cause and is considered an underdiagnosed and mostly asymptomatic nonprimary osteoarthritis. This condition is recognized radiologically only. Rarely, large projecting anterior osteophytes result in esophageal impingement and distortion leading to dysphagia. We report the case of dysphagia and neck pain due to DISH of the cervical spine in a 60 year old female. The patient came to the emergency department with neck pain and dysphagia after falling.

**Keywords:** Neck pain, Dysphagia, Osteophyte, Diffuse idiopathic skeletal hyperostosis

#### Öz

Forestier hastalığı olarak da adlandırılan diffüz idiyopatik iskelet hiperostozu (DISH), yumuşak dokuların ve ligamentlerin kalsifikasyonu ve ossifikasyonu ile karakterize klinik tablodur. DISH; etyolojisi tam olarak bilinmeyen, inflamatuvar olmayan, çoğunlukla asemptomatik olup az tanı alan primer osteoartrit olarak düşünülür. Tanı radyolojik incelemelerle konur. Nadiren osteofitler özafagusu bası yapıp artrit disfajiye neden olur. Biz olgu sunumumuzda düşme sonrası yutma güçlüğü ve boyun ağrısı yakınmalarıyla acil servise başvuran, DISH tanısı konan 60 yaşında kadın hastayı sunmayı amaçladık.

**Anahtar kelimeler:** Boyun ağrısı, Yutma güçlüğü, Osteofit, Diffüz idiyopatik iskelet hiperostozu

#### Introduction

Diffuse idiopathic skeletal hyperostosis (DISH) is a non-inflammatory disease of unknown cause, characterized by ossification of spinal ligaments and entheses. The diagnosis of the disease is made by anatomical, clinical and radiological data. [1]. The criteria for spinal involvement in DISH, all three of which must be met; 1) presence of flowing calcification and ossification along the anterolateral aspect of at least four contiguous vertebral bodies, with or without associated localized pointed excrescences at the intervening vertebral body intervertebral disc junctions; 2) presence of relative preservation of intervertebral disc height in the involved vertebral segment and the absence of extensive radiographic changes of “degenerative” disc disease; and 3) absence of apophyseal joint bony ankylosis and sacroiliac joint erosion, sclerosis, or intra-articular osseous fusion [2]. Clinical signs of the disease depend on the location of involvement. Literature have shown that 17- 28 % of patients with DISH manifested symptoms of dysphagia due to cervical osteophytes [3]. We present a case report of a female patient seen in the emergency department with neck pain and dysphagia secondary to DISH.

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## Case presentation

A 60-year-old woman was admitted to the emergency service with neck pain and swallowing difficulty after falling down. According to the patient's story the neck pain was dull and progressive but generally tolerated by the patient, swallowing difficulty solid food for 4 years and increased after falling down. She was diagnosed with diabetes mellitus and hypertension and was taking oral antidiabetic and antihypertensive drugs. There was no trauma and operation from the neck region. On physical examination, the patient was alert, afebrile, and well oriented, with stable vital signs. The systemic and neurological exam and the patient's reflexes were normal. Cervical range of motion reduced. The patient did not show clinical, radiological, or serological evidence of rheumatoid arthritis or of ankylosing spondylitis. CK in laboratory tests was 493 u / l and other laboratory were normal. No pathology was detected in superficial tissue ultrasonography. Chest X-ray was normal. The lateral radiograph of her cervical spine showed characteristic flowing ossification along the anterior aspect of the cervical vertebrae from C5-7 and the facet joints and spinous processes did not appear ankylosed (Figure 1). The computed tomography scan of the cervical showed degenerative changes and osteophytes. Sagittal T2-weighted magnetic resonance imaging showed bone marrow signal abnormality in C5-C7 as well as in the outgrowth hyperostosis. Magnetic resonance imaging did not show cord compression and spinal stenosis. Symptoms were considered to be the diffuse idiopathic skeletal hyperostosis affecting the cervical spine and were treated with conservative approaches. We advised the patient to change the food pattern to semisolid diet, taking plenty of water with food, taking frequent meal with small quantity at a time and taking time to complete the meal. Swallow therapy was applied. Medical treatment was regulated as anti-inflammatory medication, muscle relaxants and antireflux medication. After 3 month, the symptoms of the patient decreased significantly. Neurological deficit was not detected. Informed consent was obtained from patient.



Figure 1: Lateral radiograph of cervical spine

## Discussion

Forestier's disease, also known as DISH, is a non-inflammatory disease of unknown cause and is an ossifying diasthesis characterized by spinal and peripheral enthesopathy. It was first described as senile ankylosing hyperostosis of the spine by Forestier and Rothe-Querol in 1950 [4]. The prevalence of

DISH is between races ranging from 2.9% to 25% [5,6]. There is a male predominance of Forestier's disease, mainly affecting elder individuals in their fifth or sixth decades [7,8]. The incidence of metabolic disorders, such as metabolic syndrome, diabetes and obesity, has been reported to be increased in patients with DISH [9].

Clinical signs of the disease depend on the location of involvement. DISH is considered an underdiagnosed and mostly asymptomatic nonprimary osteoarthritis. Symptomatic degenerative changes of the cervical spine affect 75% of the population above 60 years of age [10]. Dysphagia from hyperostosis is most commonly associated with anterior osteophyte formation of C3-C6, likely due to the fact that the normal epiglottic tilt lies over the laryngeal inlet at this level [11]. Evaluation of dysphagia involves imaging studies such as X-ray, CT, and/or magnetic resonance imaging. Invasive diagnostic tests such as barium swallow, nasal endoscopy, esophagram and videofluoroscopic studies are also useful for visualizing potential mechanical obstruction; but the literature does not set standard for diagnosis [12]. Nonsurgical methods such as dietary restrictions, speech and swallow therapy, anti-inflammatory medication, steroids, muscle relaxants, and antireflux medication are most effective for treatment of dysphagia. The literature suggests that osteophyte resection is considered to be highly successful when conservative methods fail [13].

We presented a case report of a female patient seen in the emergency department with neck pain and dysphagia secondary to DISH. Our patient was a female and had onset of symptoms at >50 years of age, associated diabetes mellitus, arterial hypertension.

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