

Hong Kong Journal of Orthopaedic Research

(An Open Access Journal for Orthopedics and Trauma Research)

Case Report

Hong Kong J Orthop Res
ISSN (e): 2663-8231
ISSN (p): 2663-8223
2020; 3(2): 29-31
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Anterior cervical osteophytic “giant beak-like lesion” causing dysphagia

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Abstract

Large anterior cervical osteophytes can occur during degenerative cervical disease, a condition called Diffuse Idiopathic Skeletal Hyperostosis (DISH), which can cause mechanical compression of the pharyngoesophageal area causing dysphagia. Both conditions are very rare. Here we present the case of an 81-year-old male who presented with progressive dysphagia due to a giant beak-like osteophytic lesion anterior to the C3 and C4 vertebral spine causing compression of the pharyngoesophageal segment. The patient declined treatment by anterior cervical osteophyctomy and accepted the possible complications such as progressive dysphagia.

Keywords: Cervical disease, Dysphagia, Diffuse Idiopathic Skeletal Hyperostosis.

INTRODUCTION

Dysphagia due to skeletal causes is rare. Anterior cervical osteophytes can occur in degeneration of the cervical spine, known as Diffuse Idiopathic Skeletal Hyperostosis (DISH). A large anterior cervical osteophyte can compress the pharyngoesophageal area and otolaryngological symptoms such as dysphagia, dysphonia, and dyspnea. Anterior cervical hyperosteoophytosis can induce dysphagia and require surgical intervention. There are few reports in the literature on osteophytes anterior to the C3 and C4 vertebral spine causing compression of the pharyngoesophageal segment, Herein we present the case of an elderly man with a ‘giant beak-like lesion’ anterior to the C3-C4 spine causing dysphagia, and our radiographic evaluation of the case by plain x-ray, computed tomographic (CT) scan and magnetic resonance imaging (MRI).

CASE REPORT

An 81-year-old male presented with progressive dysphagia for 12 months. His underlying diseases were hypertension and benign prostatic hyperplasia (BPH). The general examination revealed no abnormalities, and the cervical radiculopathy and myelopathy were normal.

A plain X-ray showed several very large anterior osteophytes at the C3-C4 level of the cervical spine, appearing as a giant beak-like lesion (Figure 1A). A computerized tomography (CT) scan showed a markedly bulging lesion at the left posterior pharyngeal wall, caused by the very large osteophytes at the C3-4 levels which had joined together to create a pseudoarthrotic appearance. The CT also showed several other less prominent multiple osteophytes at the rest of the anterior cervical spine with thickened ossified anterior and posterior longitudinal ligaments due to marked diffuse degenerative change of the cervical spine. There were also minimally thickened mucoperiosteal linings in both the ethmoid and maxillary sinuses. (Figure 1B)

Magnetic resonance imaging (MRI) showed normal cervical lordosis. The osseous anatomy was more easily seen in the CT, which also showed flowing and connected ossifications along the anterolateral aspect of the cervical vertebrae from the lower C2 to the T3 vertebrae, with a prominent anterior protrusion at the C3-C4 level, resulting in markedly bulging and posterior indentation of the posterior pharyngeal wall, with associated minimal prevertebral soft tissue edema. The normal intervertebral disc heights were preserved. Decreased signal intensity at the C3/C4 to C5/C6 intervertebral discs were interpreted as possible degenerative discs, with anterior protrusion of the C3/C4 disc between the osteophytes. The bilateral facet joints appeared unremarkable without ankylosis. A thickened posterior longitudinal ligament (PLL) at

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C4-C6 with low signal intensity appeared to be an ossifying PLL. The radiology report also noted mild spinal stenosis at the C4-C6 levels without obvious spinal cord compression, myelopathy or edema. (Figure 2).

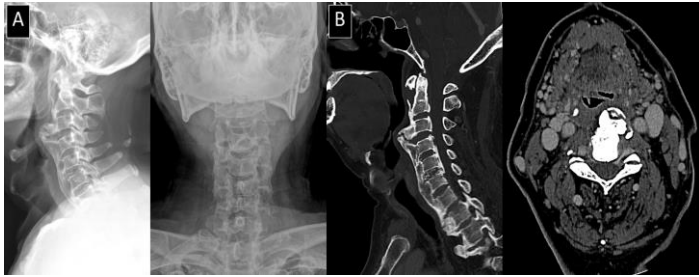


Fig. 1: (A) Plain X-ray showing prominent anterior cervical osteophytes at C3-4 as giant beak-like lesions. (B) Computed tomographic (CT) scan of the cervical spine reveals that the large osteophytes at C3-4 are compressing the pharyngoesophageal structure.

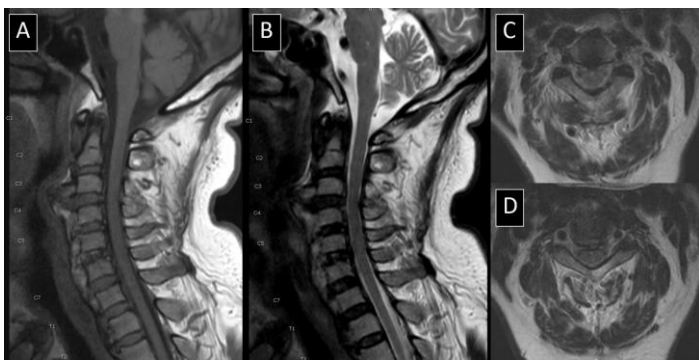


Fig. 2: (A) MRI Sagittal t1 weighted, (B) MRI t2 weighted images showing prominent anterior cervical osteophytes at C3-4 and axial images (C) C3 level to (D) C4 level

The diagnosis was based on ossifications along the anterolateral aspect of the C2-T3 vertebrae, the probable diagnosis was diffused idiopathic skeletal hyperostosis (DISH), and OPLL at the C4-C6 levels, causing mild spinal stenosis, without a significant cord or nerve compression or myelopathy. The large bulging ossification at the C3-C4 level causing a mass effect on the posterior pharyngeal wall as described was the probable cause of the patient's dysphagia. The patient declined surgical treatment by anterior cervical osteophyctectomy, and accepted the complications associated with progression of DISH.

DISCUSSION

Giant anterior cervical osteophytes, called DISH, if occurring in the anterior cervical spine can compress the pharyngoesophageal area resulting in symptoms such as dysphagia, dysphonia, and dyspnea [1]. The incidence of cervical anterior osteophytes in elderly Asia populations is about 10-24% [2-4]. However, a patient with DISH is generally asymptomatic. Ten percent of patients older than 65 years were commonly found with anterior osteophyte of the cervical spine and more than 17% were found with DISH complaints of dysphagia [5,6]. Osteophytes at C3-4 of the cervical spine can cause abnormalities of the tilt mechanism of epiglottis leading to dysphagia [7]. Giant beak-like lesions of the anterior cervical hyperosteoephytosis are often seen in sagittal or lateral radiographs that induce dysphagia and require surgical intervention. DISH is a common cause of anterior cervical osteophytes resulting in progressive dysphagia. The differential diagnosis is very important to assess the signs and symptom of a patient with progressive neck stiffness, dysphagia and/or dysphonia. The surgical intervention of asymptomatic anterior cervical osteophytes due to DISH should be an anterior cervical osteophyctectomy without fusion. Scholz C *et al.* [8] studied the about long-term results after surgical treatment of DISH

causing dysphagia found that surgical resection of the anterior osteophytes in DISH was safe and a promising procedure to improve dysphagia in the long-term [8]. However, in some cases an osteophyctectomy with fusion plus a plate system to prevent segmental instability and osteophyte regrowth may be required. Indomethacin (50 mg twice daily for 10 days) for post-op prophylaxis medication and radiation are sometimes recommended for prophylaxis against recurrent DISH or anterior cervical osteophyte, but this treatment is controversial [1].

CONCLUSION

In this case, we discussed with the patient about treatment by anterior cervical osteophyctectomy. The patient did not wish surgery and accepted that there could be complications in the progression of DISH in the absence of surgery. In cases of DISH, we believe that surgical intervention for anterior cervical osteophyctectomy offers better outcomes than non-surgical options, however there are potential disadvantages concerning cervical spine motion.

Ethical approval

The patient provided written informed consent to have the case details and any accompanying images published. Prince of Songkla University Institutional Review Board, Faculty of Medicine, Songklanagarind Hospital, Prince of Songkla University (IRB number REC: 63-133-11-4) provided its approval to publish the case details. The patient had the opportunity to refuse. The patient's personal information remains confidential. There was no cost or harm to the patient as a result of the study.

Acknowledgement

The authors sincerely thank Dave Patterson of the Office of International Affairs, Faculty of Medicine, Prince of Songkla University, for his assistance in English editing.

Conflicts of interest

The authors declare no conflicts of interest.

Source of funding

None.

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