DYSPHAGIA CAUSED BY ANTERIOR CERVICAL OSTEOPHYTES

HIROYUKI NAKASE, YASUSHI SHIN, YOUNG-SU PARK and TOSHISUKE SAKAKI
Department of Neurosurgery, Nara Medical University
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Abstract : Although cervical spondylosis is a common disorder, dysphagia induced by osteophyte formation is uncommon. Reports in the literature show that vertebral hypertrophic spurs causing dysphagia result from bony degeneration or idiopathic causes (diffuse idiopathic skeletal hyperosteosis: DISH) (Forestier's disease). We present a case suffering dysphagia secondary to cervical osteophytes. A 62-year-old male patient presented with a complaint of dysphagia. Physical examination showed no abnormality. A cervical X-ray and computed tomography (CT) showed a large bone spur originating from the anterior surface of the C3/4. Barium esophagography revealed osteophytic spurs in the anterior aspect of C3/4 vertebrae, in close approximation to the inlet of the esophagus, obstructing the esophagus passage by external compression. Anti-inflammatory therapy administered did not provide relief of the patient's complaint. Functional improvement was immediate after surgical removal of the osteophyte using ultrasonic bone curettage via an anterior cervical approach. Surgery is mandatory if medical care fails and dysphagia is complete.

Key words : dysphagia, cervical spine, hyperosteosis

INTRODUCTION

Cervical osteophytes and other hypertrophic changes of the cervical spine may lead to dysphagia, odynophagia, otalgia, and a sensation of a foreign body in the throat when they protrude from the anterior edge of the cervical vertebrae to the pharynx or upper esophagus. However, dysphagia due to external compression by anterior hyperostosis of the cervical spine is rare[1].

Forestier's disease, also known as diffuse idiopathic skeletal hyperostosis (DISH), is a common disorder among older adults. It is characterized by ossification of the anterior longitudinal ligament of the spine and various extra-spinal ligaments. Although stiffness and decreased range of motion of the spine are the most common clinical presentations of DISH, extra-skeletal manifestations may also be present[2,3,4].

We report a case of progressive dysphagia due to DISH treated successfully by surgery.

CASE REPORT

This 62-year-old male had a 3-year history of progressive dysphagia. He had no history of spinal injury. On admission, general physical examination showed no abnormalities. On examination of the neck, the laryngeal motility was normal on palpation and there was no cervical swelling. The neck movements were conserved. A lateral cervical X-ray showed a

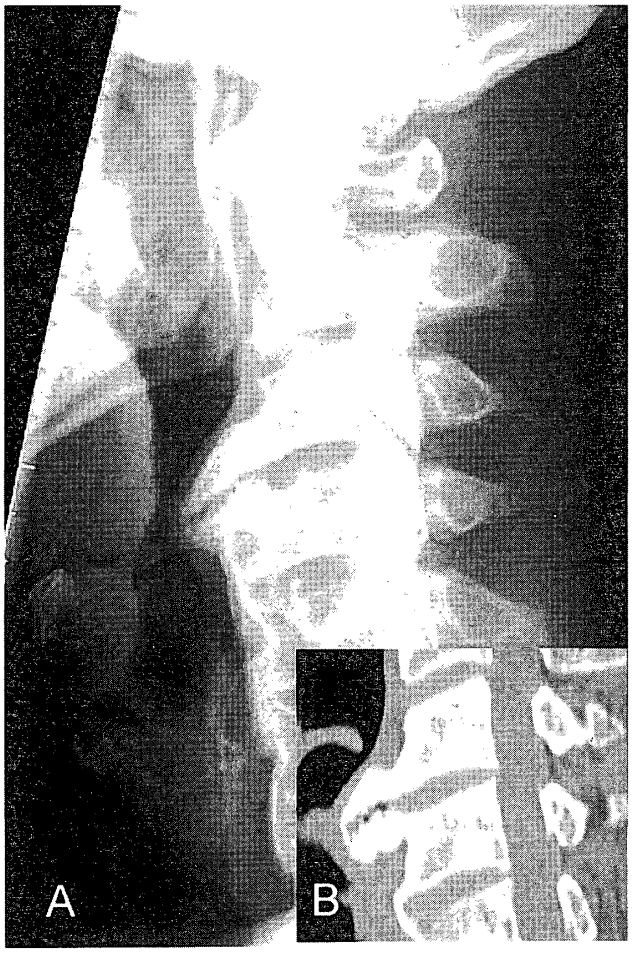

Fig. 1. Lateral cervical spine radiograph (A) and 3D-computed tomography (CT) (B) showing the bony spur originating C3/4.

generalized vertebral osteophytosis and large bone spur originating from the anterior surface of the C3/4 (Fig. 1). Axial computed tomographic (CT) scan showed ossification of the anterior longitudinal ligament (Fig. 2). Barium esophagography revealed osteophytic spurs in the anterior aspect of C3/4 vertebrae, in close approximation to the inlet of the esophagus, obstructing the esophagus passage by external compression (Fig. 3). Fiberscope demonstrated a compression of the lower pharynx by the external mass (Fig. 4). Anti-inflammatory therapy administered did not provide relief of the patient's complaint. Surgical removal of the osteophyte using ultrasonic bone curettage (SONOPET UST-2001, Miwatec Co. Ltd., Kawasaki, Kanagawa, Japan) via an anterior cervical approach was performed. Functional improvement was immediate after the operation. Postoperative CT showed that the osteophytes were removed and normal anatomy was restored (Fig. 5). The patient was discharged to his home with no swallowing problems.

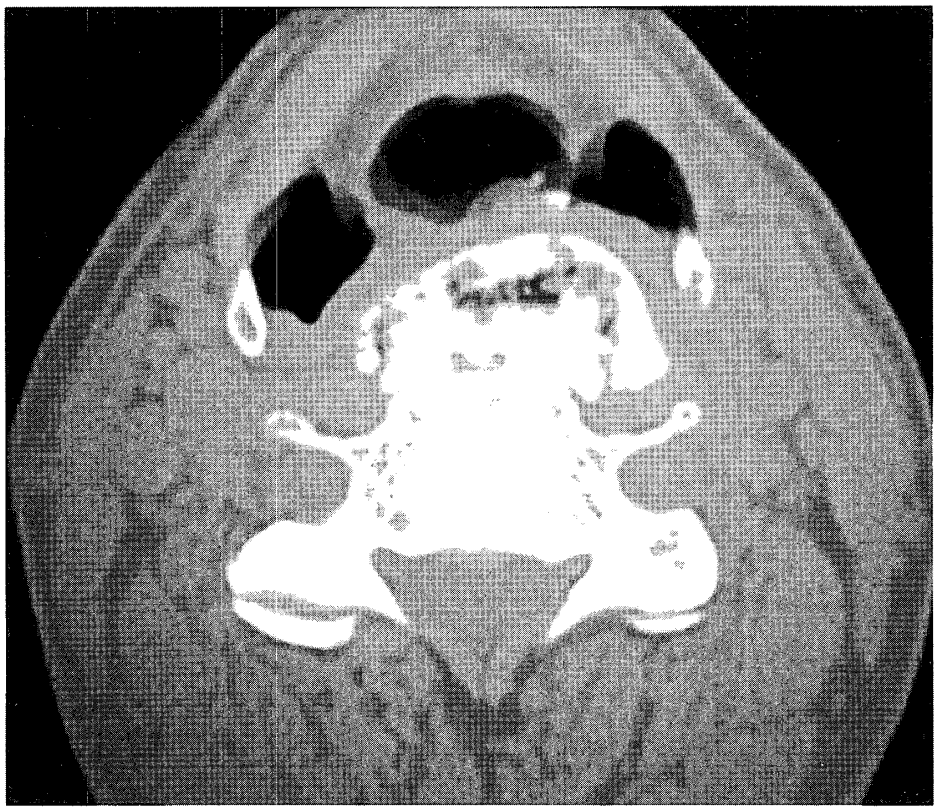

Fig. 2. Axial CT scan with bone algorithms showing large ossification of the anterior longitudinal ligament but no other masses.

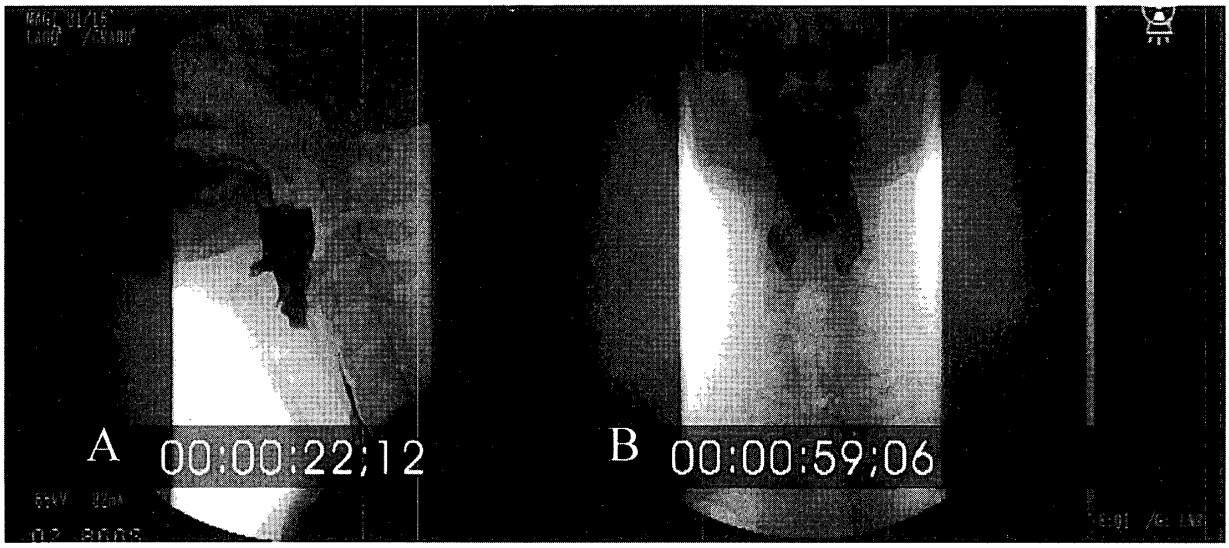

Fig. 3. Lateral (A) and AP (B) view barium esophagography revealed osteophytic spurs in the anterior aspect of C3/4 vertebrae, in close approximation to the inlet of esophagus, obstructing the esophagus passage by external compression.

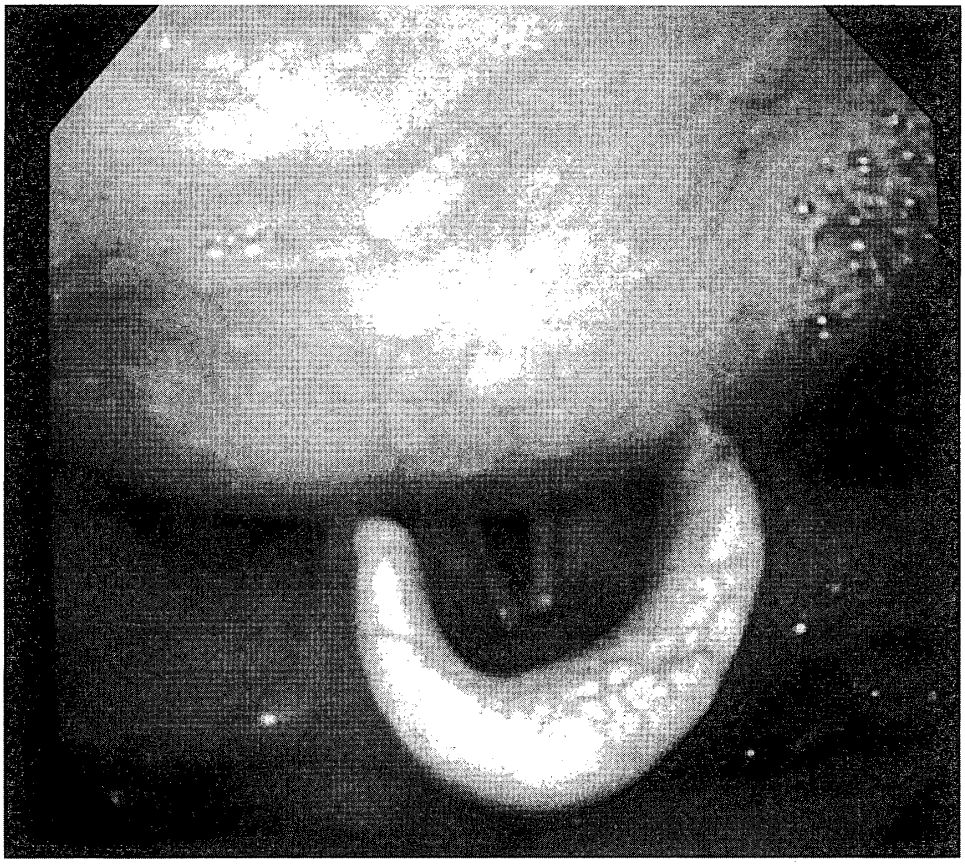

Fig. 4. Fiberscope demonstrated a compression of the lower pharynx by the external mass.

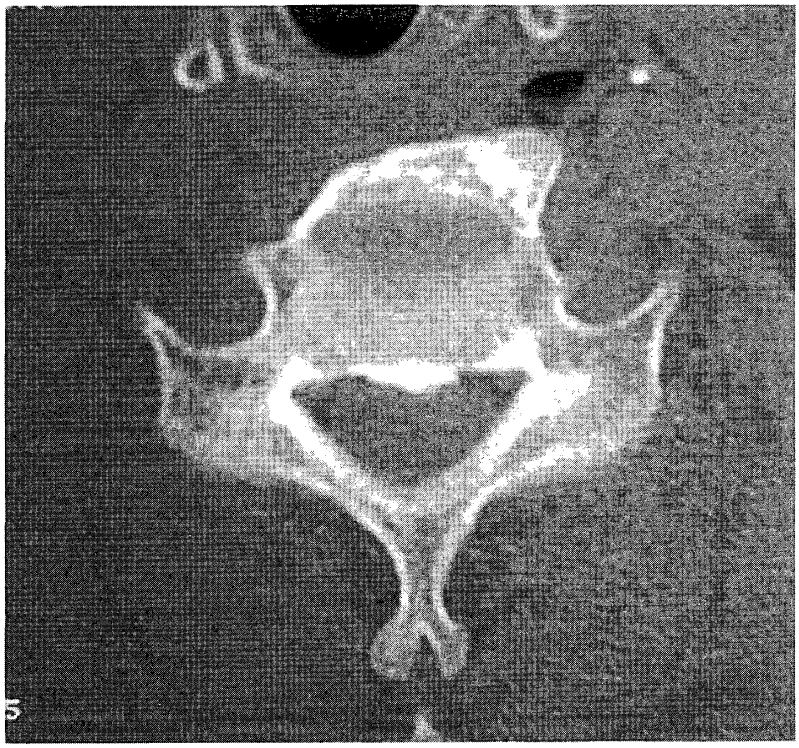

Fig. 5. Postoperative axial CT scan with bone algorithms, showing the disappearance of the osteophytes.

DISCUSSION

Dysphagia is a commonly encountered patient complaint. The differential diagnosis for dysphagia is extensive. One long-recognized etiology of dysphagia is cervical osteophytosis. Degenerative joint disease, ankylosing spondylosis, and Forestier's disease can all cause cervical osteophyte formation. The otolaryngologist is not generally familiar with these entities. The diagnosis can be made by plain cervical X-ray films, a barium swallowing esophagogram and/or a CT scan of the neck. Cervical osteophytes are common in the aging population. Dysphagia induced by cervical osteophytes, although uncommon, is an important and treatable cause of dysphagia that must be identified during the barium swallow[5].

Forestier's disease is an idiopathic rheumatological abnormality in which exuberant ossification occurs along ligaments throughout the body, but most notably the anterior longitudinal ligament of the spine. It is a disorder affecting predominantly men (men : women = 2 : 1), with a worldwide population. The etiology is unknown but a genetic predisposition probably exists[3]. The disease is usually asymptomatic; however, dyspnea, dysphagia, spinal cord compression, and peripheral nerve entrapment have all been documented in association with the disorder.

Surgical excision of the osteophytes is recommended only after a complete evaluation to rule out other causes of dysphagia and after an adequate period of conservative therapy. Although the symptom responds well to surgery, some patients who underwent removal of cervical osteophytes required several months following surgery for the dysphagia to resolve. This would support the hypothesis that not all cases of dysphagia in Forestier's disease are due to mechanical compression[3, 6]. Dysphagia may result from inflammatory changes that accompany fibrosis in the wall of the esophagus or from esophageal denervation. Evaluation of dysphagia even in the presence of Forestier's disease must rule out occult malignancy. Our experience suggests that dysphagia in the setting of Forestier's disease is an underrecognized entity amenable to surgical intervention. Regrowth of osteophytes is very slow and surgical resection appears to offer the best chance for relief of symptoms. In this case, we used an ultrasonic bone curette[7]. The ultrasonic surgical equipment comprises a power supply unit, footswitch, and handpiece (HB-13S, length 210 mm). Ultrasonic bone curettage represents safe instrumentation for such surgery without damage to surrounding structures, especially the esophagus.

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