Two cases of dysphagia due to cervical spine osteophytes successfully treated surgically

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Two cases of dysphagia due to osteophytes at the level of the fifth and sixth cervical vertebrae are reported. The patients were two women aged 47 and 50 years. The diagnosis was confirmed by means of roentgenography, barium studies and, in one case, esophagoscopy. Both patients were successfully treated surgically. The importance of properly investigating cervical dysphagia is stressed. Doctors in many different fields of practice should be aware of this rare cause of dysphagia.

Description de deux cas de dysphagie causée par des ostéophytes des cinquième et sixième vertèbres cervicales. Il s'agit de femmes âgées de 47 et 50 ans chez qui le diagnostic est confirmé par la radiographie, le repas baryté et, dans un cas, l'oesophagographie. Les deux malades ont été opérées avec succès. Les auteurs insistent sur l'importance de bien explorer toute dysphagie d'origine cervicale; l'existence de cette cause rare doit être connue des médecins.

The causes of dysphagia are legion; a rare one is external compression of the esophagus by an unusually large osteophyte. Zahn[1,2] first reported cases of dysphagia due to thoracic "ekchondromata", in 1905 and 1906. In 1926 Mosher[3] reported the first two cases of dysphagia due to cervical osteophytes, and in 1938 Iglauer[4] performed the first surgical excision of a cervical osteophyte. In 1960 Hilding and Tachdjian[5] found 36 cases of dysphagia associated with osteophytosis in a review of the world literature. Meeks and Renshaw,[6] in 1973, noted approximately 60 cases of osteophyte-induced dysphagia; 10 patients underwent surgery.

We have had two patients with marked dysphagia due to cervical osteophytes. They were both successfully treated surgically. Such patients may present to physicians in a wide variety of fields, including family practice, gastroenterology, otolaryngology, orthopedics, neurology, rheumatology, psychiatry, cardiology and respirology. These physicians should be aware that all that sticks in the cervical esophagus is not necessarily globus hystericus.

Fig. 1—Osteophyte at interspace between fifth and sixth cervical vertebrae.

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Case reports

Case 1

A 47-year-old woman had a 1-year history of difficulty in swallowing solids that had progressed to difficulty with liquids. She had lost approximately 7 kg in the previous 6 months, and her voice had become slightly hoarse in the last few months. There was no associated history of trauma, neck pain, weakness, or paresthesia or other neurologic symptoms.

A physical examination gave unremarkable findings. Roentgenography of the cervical spine showed extrinsic esophageal compression by an osteophyte at the interspace between the fifth and sixth cervical vertebrae (Fig. 1), and a barium swallow demonstrated an indentation of the esophagus at this level (Fig. 2). Esophagoscopy revealed an extrinsic filling defect, with overlying normal mucosa, approximately 24 cm from the incisors. Esophageal motility was found to be normal.

The dysphagia was so troublesome that the patient insisted on relief with surgery. An anterolateral approach was made to the cervical spine. The anterior margin of the osteophyte was identified, and the lesion was completely removed with a rongeur. Because the disc underneath, now exposed, was extremely loose it was completely removed; the cartilaginous plate was left intact. The disc appeared normal when inspected.

The patient had immediate relief of her symptoms and was discharged the day following surgery. She has had no further dysphagia but has been warned that recurrence is possible.

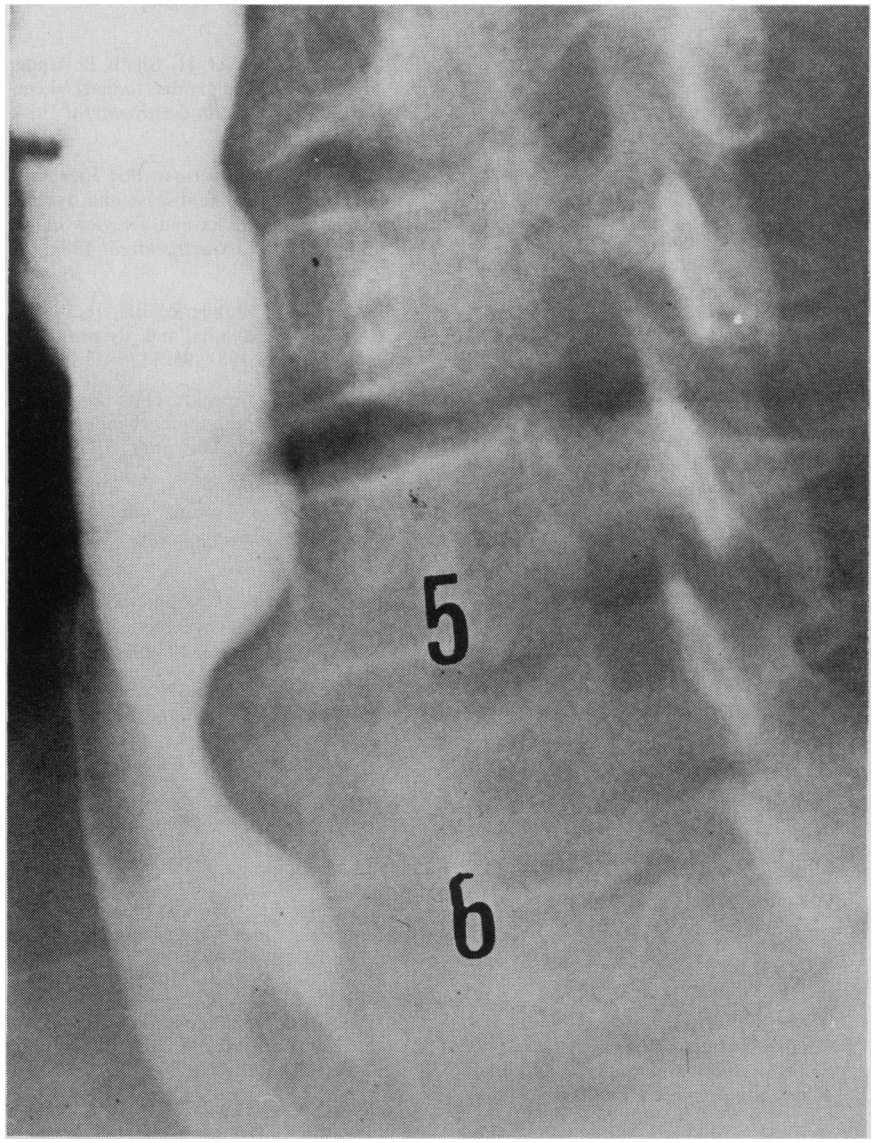

Fig. 2—Indentation of esophagus caused by osteophyte.

Case 2

A 50-year-old woman had a history of suprasternal tenderness with difficulty in and discomfort on swallowing. She consulted her family physician, who referred her to a general surgeon (H.D.F.).

After ultrasonography and a cinestudy of the esophagus the dysphagia was attributed to compression by the great vessels originating from the aortic arch. However, roentgenography with a barium swallow showed large anterior osteophytes at the level of the fifth to seventh cervical vertebrae impinging onto the posterior wall of the esophagus. There was also minimal thinning of the discs between the third cervical and first thoracic vertebrae, with small posterior osteophytes at the level of the third and fourth cervical vertebrae. The radiologist felt that the findings were consistent with osteophytes associated with disc degeneration.

Surgery was performed, with an anterolateral approach. By means of blunt dissection the anterior border of the cervical vertebrae was identified. The prevertebral fascia was separated, and the trachea and esophagus were retracted on one side and the carotid sheath on the other, so that the involved levels were exposed. The anterior osteophytes, including part of the discs, were removed to produce a smooth plane. No chronic scarring of the esophageal wall was noted.

Pathological examination revealed pieces of cortical bone covered by a thick cartilaginous cap, with fraying, fragmentation and cleft formation. Some bone formation was noted at the chondro-osseous junction. No malignancy was observed. These features were compatible with the diagnosis of osteocartilaginous exostosis.

The patient immediately improved postoperatively.

Discussion

Dysphagia due to extrinsic factors in the cervical region is most com-

monly associated with degenerative disc disease accompanied by osteophyte formation, although the cause of the hyperostosis is not known. Factors that have been considered include an endocrine factor,[7] hypervitaminosis A,[8] fluorosis[9] and secretion of a bone morphogenetic factor,[10,11] with stimulation of growth of bony tissue. Other causes of dysphagia include diffuse idiopathic skeletal hyperostosis, also known as Forestier's disease (typified by bony bridges between vertebrae and absence of disc degeneration[12]), congenital bone bars,[5] anterior herniation of a calcified nucleus pulposus,[13] atlantoaxial dislocation,[14] trauma,[15,16] "ekchondromata",[1,2] osteochondroma[4] and calcification of spinal ligaments or muscles from other causes, including severe cervical lordosis.[17]

The mechanism of dysphagia in the area of the fifth and sixth cervical vertebrae includes mechanical causes, inflammation, local edema[18] and spasm of the cricopharyngeal muscle.[19]

The dysphagia may be intermittent or exacerbated only by neck flexion.[20] It is usually slowly progressive. Physical examination gives few findings. A palpable protrusion in the anterior neck region was seen in two cases.[21,22] Other symptoms besides dysphagia may be present; they include odynophagia, cough, globus,[18] stridor, hoarseness and other laryngeal or pharyngeal disorders,[23] neck pain, spastic paraplegia and vertebral artery insufficiency.[13,24,25]

In a review of 40 cases of cervical spine disease and dysphagia Lambert and colleagues[18] found that most of the patients were men aged 25 to 83 (mean 62) years. They presented most commonly with symptoms that had persisted for a mean of 21 months and were attributed in most cases to an osteophyte at the interspace between the fifth and sixth cervical vertebrae. It is of interest that the commonest cervical disc involved in degenerative disc disease is at this level and that both of our patients had large osteophytes at this interspace.

Investigations, including barium and manometric studies, cervical spine roentgenography and endoscopy, carefully performed with a flexible endoscope, should lead to the proper diagnosis. There is a danger of perforation during endoscopy: two perforations have been reported.[26,27] Careful observation of the patient following endoscopy is necessary to rule out immediate symptoms, such as subcutaneous emphysema, as well as symptoms that may occur 2 to 3 days after the procedure.

Surgery gives the most satisfactory immediate results. Attendant morbidity must, however, be expected (two patients are known to have died postoperatively[18,25]), and recurrence of the osteophytes has been noted.[16] Other reported modes of therapy include diet and anti-inflammatory drugs.[16]

Cervical dysphagia should be properly investigated before the symptom is attributed to globus or functional causes.

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