CASE REPORT

Oropharyngeal dysphagia as an uncommon manifestation of an osteoarticular disease

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SUMMARY

We report a case of a 76-year-old Caucasian woman who was referred to our department due to progressive dysphagia. We performed a flexible nasofibrolaryngoscopy that demonstrated the presence of a non-pulsatile mass in the right posterior wall of the hypopharynx. Cervical CT scan revealed that the mass represented a bulging of the hypopharynx wall produced by osteophytes along the cervical segment (C3–C4 and C4–C5) of the rachis. The patient was successfully treated with conservative measures with progressive improvement of dysphagia. This case highlights that anterior cervical osteophytosis should be included in the differential diagnosis of oropharyngeal dysphagia.

BACKGROUND

Anterior cervical osteophytes are a prevalent condition in the elderly population. One of the most common causes of cervical osteophytosis is diffuse idiopathic skeletal hyperostosis (DISH). Patients with DISH are usually asymptomatic, however complications may arise, namely swallowing disorders.^{1 2} Although rare, DISH complications can be treated with either conservative measures or surgical procedures.³

CASE PRESENTATION

We are reporting the case of a 76-year-old Caucasian woman who was referred to our department with a 5-year history of progressive dysphagia to solids and liquids. The patient also had non-productive cough and frequent choking with meals. She denied smoking, alcohol consumption and significant weight loss.

Figure 1 Nasofibrolaryngoscopy demonstrating a non-pulsatile mass in the right posterior wall of the hypopharynx (dotted lines and white arrow).

Figure 2 Lateral cervical spine radiograph performed years ago revealing the presence of osteophytes between the vertebrae C3 and C5 (white arrow).

Her medical history included arterial hypertension, dyslipidaemia, obesity, type 2 diabetes and chronic gastritis.

Physical examination, including neurological summary examination, was unremarkable. We performed a flexible nasofibrolaryngoscopy that revealed a non-pulsatile mass in the right posterior wall of the hypopharynx which was responsible for slight medialisation of the right arytenoid and induced asymmetry of the retrocricoid region (figure 1).

INVESTIGATIONS

In order to determine the severity of oropharyngeal dysphagia, fiberoptic endoscopic evaluation of swallowing was performed. The aforementioned diagnostic procedure revealed some residues in the pharyngeal walls and a slight delay of propulsion of the bolus to the oesophagus, both being corrected with postural manoeuvres. Despite these findings, swallowing was functional and no apparent risk of laryngotracheal aspiration was assessed.

A thorough revision of the patient's medical history revealed the presence of anterior cervical osteophytes present in a cervical radiography performed years ago (figure 2).

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Figure 3 Sagittal (A) and axial (B) sections of a cervical CT demonstrating the presence of bulky anterior osteophytes along the cervical segment of the rachis along C3-C4 and C4-C5 (A: white arrow) being responsible for the anterior bulging of the right posterior wall of the hypopharynx (B: white arrow).

CT scan of the neck was ordered and revealed the presence of bulky anterior osteophytes along the cervical segment of the rachis along C3-C4 and C4-C5. Given this location, we concluded that these osteophytes were responsible for the anterior bulging of the right posterior wall of the hypopharynx (figure 3A,B).

DIFFERENTIAL DIAGNOSIS

In patients with oropharyngeal dysphagia, the underlying aetiology can be iatrogenic, infectious, metabolic, myopathic, neurological or structural. In our case report, the differential diagnosis focuses on the structural causes of oropharyngeal dysphagia, namely in the possible causes of a non-pulsatile mass of the hypopharynx. Thus, it is important to consider and exclude the presence of a malignant or benign neoplasm, an inflammatory or an infectious mass or an osteoarticular disease.

TREATMENT

Taking into account the low risk of aspiration, the patient comorbidities and the risks implied in the surgical correction, conservative treatment was chosen, namely swallowing rehabilitation therapy.

OUTCOME AND FOLLOW-UP

After a year of follow-up and after completing four sessions of swallowing rehabilitation therapy where swallowing measures were learnt and strengthened, the patient experienced a progressive improvement of the dysphagia and no complications were documented.

DISCUSSION

Anterior cervical osteophytes are a common condition in the elderly population, with an estimated prevalence of 20% to 30%. This condition may be caused by DISH, ankylosing spondylitis, degenerative spinal changes or previous trauma.¹²

DISH, also known as *Foriester's disease*, was described for the first time in 1950 by Forestier and Rotes-Querol.⁴ It is a rare non-inflammatory disorder characterised by calcification and ossification of spinal ligaments and entheses, and osteophyte formation.⁵ Its prevalence increases with age, being more frequent after the fifth or sixth decade of life, and is more common in men than in women.^{6,7}

The precise aetiology of DISH, as its name implies (Diffuse Idiopathic Skeletal Hyperostosis), remains unknown. Despite

this, the role of mechanical factors, diet, drugs, environmental exposures and metabolic conditions, such as obesity, diabetes mellitus and acromegaly, has been previously hypothesised in the literature.^{3,8,9}

The patients are frequently asymptomatic, reason why some authors advocate that this is not a disease but a radiological finding. Nevertheless, symptoms attributed to the growth of anterior cervical osteophytes, such as musculoskeletal symptoms, neurological manifestations, airway compromise, dysphonia and dysphagia have been reported.¹⁰⁻¹³

Oropharyngeal dysphagia occurs in only 0.1% to 1.0% of the cases. Various mechanisms have been proposed to explain oropharyngeal dysphagia, including not only the direct mechanical compression of the pharynx and oesophagus by the anterior cervical osteophyte, but also an inflammatory reaction in the tissues around the larynx and oesophagus, a spasm of the cricopharynx and potential alterations in the movement of the epiglottis.¹³

The diagnosis of DISH is radiological (spinal radiography or CT scan) and includes the following criteria: (1) flowing calcification and ossification of the anterolateral aspect of four contiguous vertebral bodies; (2) absence of signs suggestive of disc degeneration; (3) absence of any other degenerative disease of the spinal joints (Resnick criteria).⁵ The thoracic or lumbar spine are the most common locations. Despite being less frequently affected, cervical involvement usually occurs between C4 and C7 vertebral discs. MRI may be useful when there are complications associated and add additional information relative to the surrounding soft tissue.^{2,3,9}

In patients with DISH who complain of oropharyngeal dysphagia, nasofibrolaryngoscopy allows an anatomical characterisation of the larynx and hypopharynx and excludes structural lesions. In addition, fiberoptic endoscopic evaluation of swallowing or videofluoroscopy should be performed to determine the severity of oropharyngeal dysphagia and evaluate the potential risk of aspiration.¹⁴

DISH treatment is primarily conservative and includes diet modification, weight loss, physical therapy, swallowing therapy, and eventually pharmacotherapy (non-steroidal anti-inflammatory drugs, steroids or myelorelaxants). Surgical treatment is reserved for patients with severe dysphagia, significant weight loss, impairment of the airway or when conservative treatment fails.^{3,14-16}

Although patients with DISH are generally asymptomatic and have a good long-term prognosis, rare complications, such as oropharyngeal dysphagia, may arise. Since this dysphagia has a potentially treatable underlying cause, its recognition and correct management is fundamental.

Learning points

- ▶ Anterior cervical osteophytes are a prevalent condition in the elderly population.
- ▶ Diffuse idiopathic skeletal hyperostosis (DISH) is one of the most common causes of cervical osteophytosis.
- ▶ DISH patients are usually asymptomatic.
- ▶ Oropharyngeal dysphagia is a rare and potentially treatable complication of DISH.
- ▶ In the differential diagnosis of the structural causes of oropharyngeal dysphagia we must consider the anterior cervical osteophytosis.

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