

## Dysphagia and Eagle Syndrome: Don't Stop on the Surface

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### Introduction

Dysphagia, defined as difficulty in food swallowing, is a relevant problem in Internal Medicine. According to some recent case histories, the most frequent causes in this setting are: dementia (65.2%), cerebrovascular disease (30.4%), and Parkinson's disease (PD) (4.4%) [1]. A rare cause of dysphagia is the presence of cervical osteophytes. According to Grandville et al. 10.6% of people presenting dysphagia have cervical osteophytes [2]. This case aims to describe the particular diagnostic-therapeutic procedure of a patient, with already known PD, presenting dysphagia.

### Case Report

In August, an 81-year-old man treated with L Dopa for PD arrived in our department with progressively worsening dysphagia to soft foods and liquids. He had begun to experience dysphagia one year before, with a significant weight loss (10 kg). As ambulatory procedure were carried out an otorhinolaryngological evaluation with negative laryngoscopy exam and a neurological evaluation without identification of any clear neurological cause which could justify dysphagia. Laboratory tests were not relevant except for the reduction of protein synthesis. Dysphagia was already described by the patient as a difficulty in swallowing, which was more complicated with solid foods than with liquids, with sensation of a mechanical block when the bolus passed at the jugular. Clinical examination shown clear slimness and panniculus adiposus reduction, with no anomalous trace in the cervical area. CT brain resulted negative for secondary lesion or vascular

acute disease. Esophagogastroduodenoscopy was unremarkable. Esophagus x-ray with barium swallow shown a clear incisure on the left of esophagus lumen proximal tract (Figure 1). A neck computed tomography (CT) scan with barium swallow shown an advanced spondylarthrosis with osteophytes which caused at level C6-C7 an esophagus compression with important lumen reduction (Figure 2). The patient underwent to an osteophyte tripe operation at level C6-C7 and C5-C6 so to obtain a somatic wall anterior leveling.



**Figure 1:** Esophagus x-ray with barium swallow shown a clear incisure on the left of esophagus lumen proximal tract.



**Figure 2:** A neck computed tomography (CT) scan with barium swallow shown an advanced spondylarthrosis with osteophytes which caused at level C6-C7 an esophagus compression with important lumen reduction.

One month later, after the operation, a new neck CT confirmed that the esophagus lumen compression was no more present. It was also shown that the barium swallow could easily transit through the esophagus (Figure 3). After 12 months, the patient could feed without any difficulty and has gained an appropriate weight again.



**Figure 3:** After the operation, a new neck CT confirmed that the esophagus lumen compression was no more present. It was also shown that the barium swallow could easily transit through the esophagus.

## Discussion

Anatomic causes of dysphagia are tumors, abscesses, neurological diseases and cervical bony outgrowths (osteophytes) [4]. More than 75% of people aged over 65 experience cervical vertebra modifications. Osteophytes and other hypertrophic cervical

spine modifications can be found in approximately 20-30% of the general population but mostly remain asymptomatic [3]. Normally, osteophytes which cause dysphagia are located in the C5 cervical interspace [4]. Large osteophytes which protrude from the anterior edge of the cervical vertebrae can however impinge on the pharynx or upper esophagus and lead to dysphagia and odynophagia. When a patient presents with throat pain, difficulty in swallowing with the sensation of the presence of a foreign body, this is known as Eagle syndrome and the presence of anterior cervical osteophytes [4] should be considered. Large anterior cervical osteophytes can occur in degeneration of the cervical spine or in widespread idiopathic skeletal hyperostosis and ankylosing spondylitis [4]; it may also be traumatic or a consequence of spinal surgery.

Dysphagia related to cervical osteophytes appears progressively, initially with solids and then with fluids; it can increase to the point of aggravating and producing aphagia with weight loss and alteration of the patient's general health. The physiopathological mechanism to explain the symptomatology is probably the hindered peristalsis caused by the osteophytosis at the posterior pharyngeal wall. Although cervical spine plain films and barium swallow are the less expensive and most widely available imaging methods, the best choice for studying would be CT scanning and magnetic resonance, which are special methods aiming to intramedullary involvement detection. In patients with cervical osteophytes, upper gastrointestinal endoscopy can be carried out, but with caution because of risk for esophageal perforation. Manometry and pH stimulation studies can help to exclude motility disorders and gastroesophageal reflux disease as a cause of dysphagia in the neck [4].

Conservative therapy with anti-inflammatory medications, muscle relaxants and appropriate soft diet has been suggested for mild-to-moderate cases of dysphagia, while surgery has been reserved for more severe cases. Surgical excision of a large anterior cervical osteophyte via an anterior extrapharyngeal approach was first described by Iglauer in 1938. In literature, Sobol and Rigual found 70-80 patients with osteophyte-induced dysphagia. Among these people, 19 patients underwent to surgery operations that successfully relieved dysphagia in all but three patients. Vocal cord paralysis has been reported in 2-11% of patients as the most common complication, followed by fistula, hematoma, infection, and transient aspiration [5].

Our case offers the peculiarity of a difficult different diagnosis in a patient whose problem had initially been related to PD: survey studies record different results (ranging from 30% to over 80%) about the presence of difficult swallowing in individuals with PD. Symptom features (swallowing more difficult with solid foods than with liquids with sensation of a mechanical block) actually almost excluded a neurologic origin of dysphagia and the carrying out of a videofluoroscopy could provide useful information for a

different diagnosis. The anterior cervical osteophytes are frequent in elderly subjects and have to be considered when other causes have already been excluded. Cervical osteophytes evaluation consists in cervical spine radiograph with barium swallow in order to confirm their presence.

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