

Late high dysphagia for external compression of strange body

Disfagia alta tardía por compresión externa de cuerpo extraño

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ABSTRACT

After accidental ingestion of a foreign body, most are expelled with a bowel movement or removed by endoscopy. 1% of the cases require surgical treatment. Perforation of the esophagus, with the appearance of late dysphagia, was the reason for this communication. **Clinical case:** a 38-year-old man who, during a party, lost his upper dental prosthesis. Seven years later he began to feel slight discomfort for solid foods. Four years later the dysphagia worsened also for liquids. He was admitted to our hospital, where the presence of a high esophageal stenosis by external compression was found. He was operated and a fibrous mass nailed at the level of the upper thoracic narrow in prevertebral fascia was removed, which compressed and occluded the esophagus. The mass contained a dental prosthesis. **Conclusions:** An infrequent case of high esophageal dysphagia due to an external foreign body is presented. Transcervical surgical access was performed, which allowed the elimination of the cause of the dysphagia and the mobilization of the esophagus with the reconstruction of the injured surface.

RESUMEN

Posteriormente a la ingestión accidental de un cuerpo extraño, la mayoría es expulsada con la defecación o es extraída mediante endoscopia; el 1% requiere tratamiento quirúrgico. La perforación del esófago, con la aparición de disfagia tardía, motivó la presente comunicación. **Caso clínico:** Hombre de 38 años de edad que en una actividad festiva comprobó la pérdida de su prótesis dental de la arcada dentaria superior. Siete años después comenzó a presentar ligeras molestias para los alimentos sólidos, cuatro años más tarde la disfagia fue también para los líquidos. Fue ingresado en nuestro hospital, comprobando la presencia de una estenosis esofágica alta por compresión externa, fue operado y se extirpó una masa fibrosa enclavada a nivel del estrecho torácico superior en fascia prevertebral, que comprimía y ocluía el esófago conteniendo en su interior una prótesis dental. **Conclusiones:** Se presenta un caso infrecuente de disfagia esofágica alta por cuerpo extraño externo, el acceso quirúrgico seleccionado fue la vía transcervical, que permitió la eliminación de la causa de la disfagia y la movilización del esófago con reconstrucción de la superficie lesionada.

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INTRODUCTION

The first testimonies of esophageal disorders were reflected between 3000-2500 BC in the papyrus discovered in 1862 by Edwin Smith, which describes the successful surgical treatment of "an open wound in the throat that penetrated to the esophagus". In Cuba, the first cervical esophagotomy for the extraction of a dental prosthesis was

performed on April 19, 1888 by Dr. Carlos M. Desvernine y Galdós.^{1,2}

The presence of foreign bodies in the upper digestive tract is caused by substances of food origin (which may be blunt like a meatball or sharp, such as bone splinters) and of other nature (coins, dentures, hair, buttons among others). This condition is more frequent in children, the elderly, psychiatric patients, and prisoners. Generally, the foreign body

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advances through the digestive tract and is expelled without complications. In these cases the behavior is expectant, with the support of serial radiological control. On other occasions, the extraction of the foreign body is required using endoscopy. Only 1% require surgical treatment. If an esophageal perforation occurs, the intervention must be done urgently due to the risks involved.³⁻¹⁰ The case presented introduces another variant, perforation of the esophagus layers by a foreign body, forming a fibrous mass, that exerted external compression and late dysphagia 11 years after the accidental swallowing of a dental prosthesis, which motivated the writing of this report.

PRESENTATION OF THE CASE

A 38-year-old male attended consultation for dysphagia. After he participated in a festivity 11 years before, he noted the loss of his prosthetic upper dental arch. He was seen by ENT specialists, who did not observe alterations by direct laryngoscopy. As he was asymptomatic, he decided not to attend any more follow-up medical appointments. Seven years later, he began with a slight discomfort while swallowing solid food and four years later the symptom increased to dysphagia to liquids, the reason for his consultation and admission.

Physical examination: no significant data were provided, except for a slight increase in volume at the base of the left side of the neck, near the clavicle. Body mass index was 22.8 kg/m², normal weight.

Chest X-ray in posterior-anterior projection: no alterations of the lung parenchyma were observed. In the cervical spine radiography, osteoporosis and arthritic degenerative changes with marginal osteophyte formation at the level of C 4 to C 7 were detected. In the examination with hydrosoluble contrast, passage of contrast from the esophagus towards the stomach was observed, but at the cervical portion, pseudo-diverticular images and a leak of contrast towards the left supraclavicular region were seen (Figure 1).

CT scan with contrast, with 2 and 5 mm cuts, showed a high-density image of 56 UH in the neck, of 17 mm in length, between the

cervical esophagus and the cricoid cartilage, suggestive of a foreign body. Above it, the esophagus had very thick walls of 20 mm, through an approximate length of 30 mm, causing stenosis and compression of the trachea, thickening of soft tissue at T1 and T2 adjacent to the described lesion, pre-tracheal adenopathy of 8 mm, and osteo-degenerative changes (Figure 2).

Functional respiratory tests:

- Pre-bronchodilator: Forced vital capacity-force expiratory volume ratio below normal indicates an obstructive abnormality, forced expiratory volume in one second at 85% of the predicted value indicates mild disorder.
- Post-bronchodilator: changes in forced vital capacity-forced expiratory volume in one second of fewer than 200 ml and/or less than 12% are not significant, which denotes a mild obstructive disorder and does not contraindicate surgical procedure.

Organic dysphagia by extraluminal compression due to a foreign body (the dental prosthesis), was diagnosed. After completing the



Figure 1: X-ray film with contrast leak to the left supraclavicular region.

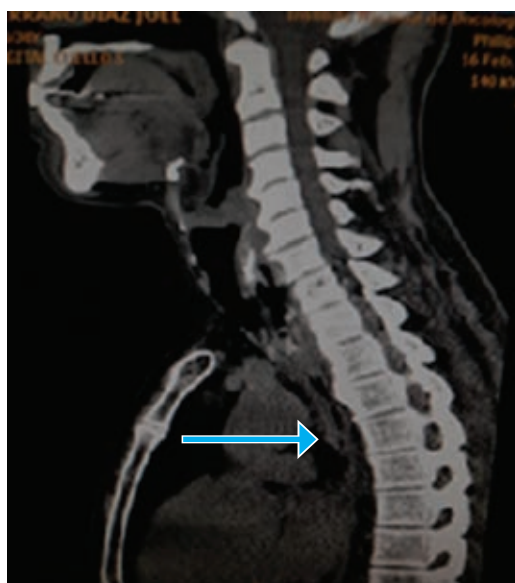


Figure 2: CT scan with image between the cervical esophagus and cricoid cartilage.

preoperative studies, the surgical intervention was decided.

After a discussion in the multidisciplinary group, surgical access through a left lateral cervical incision was decided. The colon and stomach were prepared for possible esophageal replacement.

The findings were a retraction stricture of the esophagus surrounded by a fibrotic ring towards its posterior wall. After periesophageal adhesions were released, a tooth was found occluding an esophageal wound, as well as

a fibrous mass located at the level of the upper thoracic strait in the prevertebral fascia (a retro esophageal granuloma), which compressed and occluded the esophageal lumen. The tumor was dissected and removed. It contained the dental prosthesis which was missing the piece that had been removed from the esophagus wall. Local closure of the esophageal lesion was done, and a drainage placed nearby, complemented by a jejunostomy for feeding (*Figures 3 and 4*).

The evolution was favorable, the oral route was started with liquids on the fifth day and after verifying the absence of suture leaks on X-rays with water-soluble contrast, he was discharged two days later (*Figure 5*).

DISCUSSION

Swallowing of foreign bodies occurs frequently in children. It has been described that 80-90% of foreign bodies pass spontaneously into the distal segments of the gastrointestinal tract and 10 to 20% impact, requiring endoscopic procedures for removal. Surgery is required in 1% for removal or treatment of complications.³⁻¹⁰

The diagnostic means vary from an oral examination, to endoscopic studies such as laryngoscopy and esophagoscopy; imaging, including simple and contrasting X-rays, ultrasound, and multi-slice CT scans. In the case presented, this last one allowed to decide the surgical strategy.

Perforation of the esophageal wall by a foreign body produces various complications,

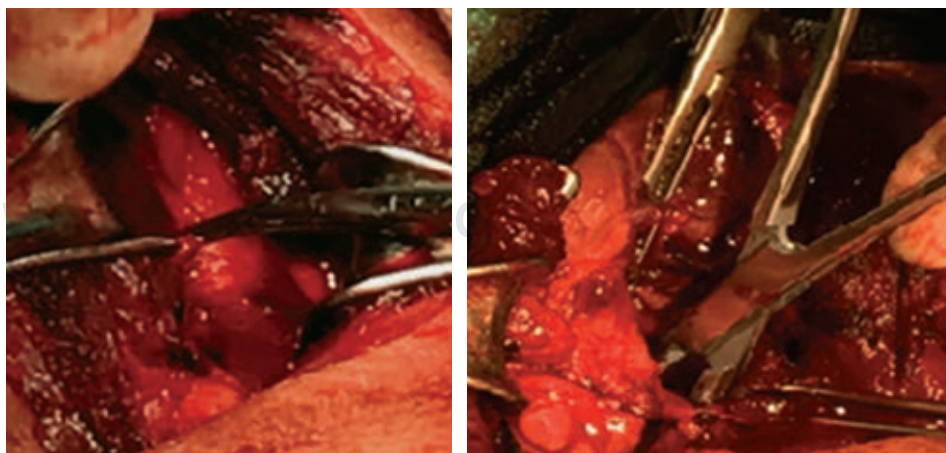


Figure 3:

Dissection and identification of the retroesophageal granuloma, which included the dental prosthesis.

Figure 4:

Prosthesis and tooth that occluded the esophageal wound.



some of lesser complexity such as laceration of the wall with localized hematomas and others more complex such as regional abscesses, mediastinitis, disseminated emphysema and pneumothorax; other serious complications have been described, such as cardiac tamponade, aorto-esophageal or pleuro-esophageal fistulas.¹⁰⁻¹⁸

Foreign body stenosis of the esophagus is unlikely, the patient in our case presented late dysphagia following perforation with few symptoms and the formation of a fibrous mass that produced the external compression caused by accidental swallowing of a dental prosthesis 11 years earlier. Another interesting aspect was the presence of a piece of the prosthesis that occluded the esophageal wall. Endoscopic management for the removal of the foreign body was impossible due to the time elapsed,¹⁹⁻²³ nor

was it feasible to overcome the stenosis with the placement of a self-expanding stent, despite the fact that it was a benign condition,²⁴⁻²⁶ with surgery being the only alternative due to the need to remove the foreign body, solve the dysphagia and reconstruct the esophageal wall.

CONCLUSION

We present a rare case of high esophageal dysphagia due to a foreign body (a dental prosthesis) that perforated the wall of the esophagus with few symptoms; the transcervical surgical access allowed the intervention, besides the possibility of extending it to the thorax, in case the mobilization of the esophagus and suture of the lesion were not achieved.

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Figure 5: *Post-operative photo after five days.*

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