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CONTINUING MEDICAL EDUCATION
ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Surgery Quiz – Case 60

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2026, 43(2):287–288

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A 67-year-old patient presented at the emergency room with pain in the neck, dysphagia with a sensation of food stuck in the throat, regurgitations, coughing and complaining about bad breath for the last few months. The laboratory results returned normal; the only finding was from the X-ray (fig. 1).

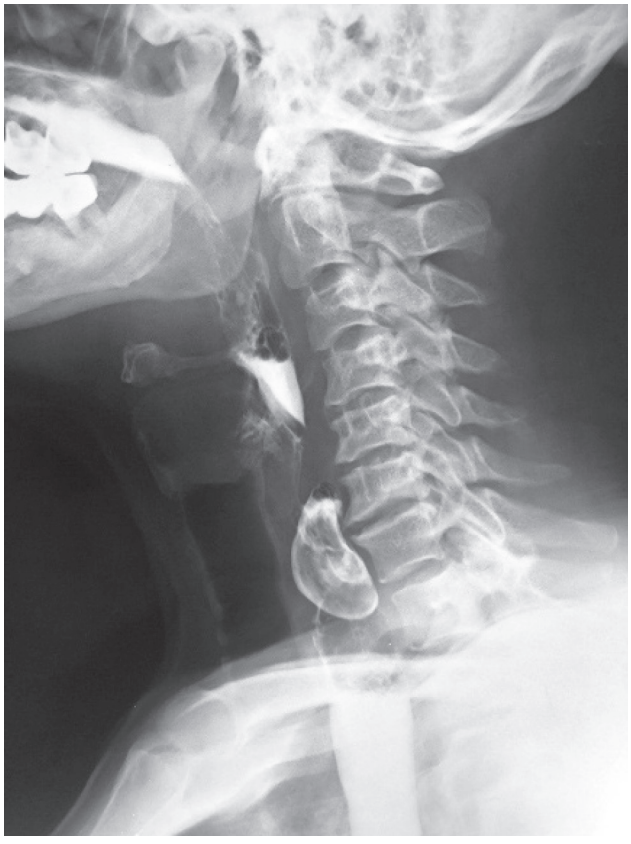

Figure 1

Comment

This entity was first described by Ludlow in 1764. It was later named after German pathologist Friedrich Albert von Zenker in 1877. The condition is a saclike outpouching of the mucosa and submucosa of the dorsal wall of the hypopharynx, just above the upper esophageal sphincter. A Zenker's diverticulum, is a diverticulum of the mucosa of the human pharynx, just above the cricopharyngeal muscle. It is a pseudo-diverticulum (including only the mucosa and submucosa of the esophageal wall, and not the adventitia), also known as a pulsion diverticulum.

Zenker's diverticulum mainly affects older adults, mostly men above the age of 60 years old. It has an incidence of 2 per 100,000 people per year, but there is significant geographical variation worldwide. When there is excessive pressure within the lower pharynx, the weakest portion of the pharyngeal wall bulges out, forming a diverticulum which may reach several centimeters in diameter. This diverticulum is a pseudo-diverticulum since it consists of only two out of three layers of the esophageal wall. While traction and pulsion mechanisms have long been deemed the main factors promoting development of a Zenker's diverticulum, current consensus considers occlusive mechanisms to be most important: Uncoordinated swallowing, impaired relaxation and spasm of the cricopharyngeus muscle lead to an increase in pressure within the distal pharynx, so that its wall herniates through the point of least resistance (Killian's triangle), located superior to the cricopharyngeus muscle and inferior to the thyropharyngeus muscle. Thyropharyngeus and cricopharyngeus are the superior and inferior parts of inferior constrictor muscle of pharynx, respectively. The result is an outpouching of the posterior pharyngeal wall, just above the esophagus. While Zenker diverticulum may be asymptomatic it can present with the following symptoms: (a) Dysphagia (difficulty swallowing), and sense of a lump in the throat, (b) food might get trapped in the outpouching, leading to (c) reappearance of ingested food in the mouth, (d) cough, due to food regurgitated into the airway, (e) halitosis, smelly breath, as stagnant food is digested by microorganisms and (f) infection. It rarely, if ever, causes any pain.

Esophageal webs are seen associated in 50% of patients with this condition, which are thin 2–3 mm (0.08–0.12 in) membranes of normal esophageal tissue consisting of mucosa and submucosa that can partially protrude/obstruct the esophagus. They com-

monly appear in the middle and inferior third of the esophagus, and they are more likely to be circumferential with a central or eccentric orifice.

Rarer forms of cervical esophageal diverticula include: (a) Killian's diverticulum is formed in the Killian-Jamiseon triangle (between the oblique and transverse fibers of the cricopharyngeus muscle) and (b) Laime's diverticulum is formed in Laimer's triangle (located inferior to the cricopharyngeus in the posterior midline above the confluence of the longitudinal layer of the superior esophageal circular muscle). Laimer's triangle is covered only by the circular layer of esophageal muscle.

Diagnosis: Lateral X-ray of a Zenker's diverticulum (fig. 1) and diagnosis can be confirmed by a simple barium swallow, gastrografin contrast agent and thorough an endoscopy.

Treatment: If Zenker diverticulum are small (<2 cm) and asymptomatic, no treatment is necessary. Larger, symptomatic cases of Zenker's diverticulum have been traditionally treated by neck surgery to resect the diverticulum and incise the cricopharyngeus muscle. Flexible endoscopic cricopharyngeal myotomy is the gold standard for the management of Zenker's diverticulum. However, non-surgical endoscopic techniques have gained more importance as they allow for much faster recovery, and the currently preferred treatment is endoscopic stapling. Other methods include fibre-optic diverticular repair. Other non-surgical treatment modalities also exist, such as endoscopic laser, which recent evidence suggests is less effective than stapling.

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