Zenker Diverticulum

Zenker Diverticulum is a false diverticulum that emerges from an area of weakness in the esophageal muscular wall to form an outpouching which can become symptomatic. It most often occurs in male patients over 60 years old. A history of dysphagia, food regurgitation, and halitosis is hallmark. The best confirmatory test is a barium swallow. Surgery is the mainstay of treatment.



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Pathophysiology

False Diverticulum
False Outpouching
In contrast to a “true” diverticulum (see Picmonic on “Meckel’s Diverticulum”) which contains all three layers of the intestinal wall (mucosa, submucosa, and muscle), a false diverticulum only involves the mucosa and submucosal layers.

Junction of Pharynx and Esophagus
Junction of Pharaoh and Sarcophagus
Zenker’s diverticulum generally occurs at the junction of the pharynx and esophagus; if the outpouching becomes large enough, a palpable mass can appear in the neck.

Inferior Pharyngeal Constrictor
Pharaoh Constrictor
The posterior cricopharyngeal muscles refer to the muscles of the posterior wall of the hypopharynx. One is the inferior pharyngeal constrictor muscle. This muscle consists of two muscles: the thyropharyngeus and the cricopharyngeus. Between these two muscles there is an area of relative weakness called the Killian triangle. Zenker's diverticulum outpouches through this weak area.

Symptoms

Dysphagia
Dice-fajita
An initial complaint of patients is often difficult or painful swallowing. This dysphagia may prevent patients from obtaining proper nutrition.

Regurgitation of Undigested Food
Regurgitating Undigested Food
As a food bolus passes by the diverticulum opening, it may slide into and be retained by the sac, only to be later regurgitated back into the patient’s mouth. It may also cause a cough or aspiration.

Halitosis
Halo-breath
If the food bolus is not regurgitated, it will remain in the outpouching, only to rot and give the patient foul breath, or halitosis. Friends and family are often first to complain about this.

Diagnosis

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Barium Swallow

Swallowing Berries

An esophagram, or barium swallow, is a test to determine causes of swallowing abnormalities. It involves ingesting a liquid containing barium sulfate, a contrast dye that helps to distinguish structures when viewed via X-ray. If contraindicated, ultrasound may be useful in addition to flexible endoscopic visualization.

Treatment

Surgical Repair

Surgeon with scalpel

Open or endoscopic surgery may be performed to treat Zenker’s diverticulum. Perioperative antibiotics and nasogastric tube placement improve recovery times, lower mortality, and reduce complications like infection or GI perforation.

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