

A rare case of esophageal diverticulum with classical presentation

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ABSTRACT

Diverticula of the esophagus are rare, accounting for <1% of all barium gastrointestinal radiographs and <5% of all cases of dysphagia. Here, we report a case of an 80-year-old male presented with the chief complaint of dysphagia for 8 months. Contrast studies with barium swallow and computed tomography (CT) scan were performed to diagnose the etiology behind dysphagia, and it turned out to be a case of esophageal diverticulum which demonstrates outpouching from the wall of the esophagus in barium swallow and CT scan. These investigating modalities also aid in eliminating other causes of dysphagia.

Key words: Barium swallow, Contrast computed tomography, Diverticulum, Dysphagia, Esophagus

An esophageal diverticulum is a sac that protrudes from the esophageal wall. Esophageal diverticula are rare findings that have an estimated incidence of 1:500,000 per year and a prevalence of 0.015–2%. Since Ludlow, in 1764, first described a diverticulum of the esophagus, many contributions have been made as to topography, classification, etiology, and treatment. In 1877, Zenker and Von Ziemissen made a careful study of the subject, classifying diverticula as of the pulsion and traction types.

Esophageal diverticula can be classified in many ways. They can be divided into congenital and acquired based on the origin, into pulsion and traction based on the etiology, or into false or true based on the histology, but the simplest and most practical way is to classify them according to anatomy, into four categories: Zenker's (hypopharyngeal) diverticula, mid-esophageal diverticula, epiphrenic diverticula, and intramural pseudodiverticulosis [1].

Although majority of the patients complain of dysphagia or other obvious manifestations of esophageal dysfunction, it is also important to consider other esophageal diseases in older patients with a history of recurrent bronchitis or pneumonitis. We report a case of an 80-year-old male presented with the chief complaint of dysphagia for 8 months.

CASE REPORT

An 80-year-old male patient presented with a complaint of dysphagia since eight months, which was insidious in onset and gradually progressive. Difficulty in swallowing was found to be more with solids than liquids. There was a history of regurgitation of solid foods, after which the discomfort reduced. There was no history of a cough or loss of weight. There was no history of tuberculosis in the past. There were no other complaints suggestive of any mediastinal mass.

On general examination, his pulse rate was 88 bpm and blood pressure was 120/80 mmHg. On systemic examination, cardiovascular, respiratory, gastrointestinal, and central nervous systems were within normal limits. The patient was clinically diagnosed to have esophageal diverticulum/achalasia. Considering the patient's age, esophageal carcinoma was also considered in the differential diagnosis. The patient was initially treated symptomatically, and the patient was subjected to investigations to further confirm the diagnosis.

Complete blood counts, serum electrolytes, liver function tests, and renal function tests were within normal limits. On barium swallow, there was a large contrast-filled sac in the thoracic esophagus (Fig. 1). On contrast-enhanced computed tomography (CECT) scan, contrast-filled extraluminal outpouching was noted arising from the left lateral wall of esophagus measuring 3.3 cm × 2.4 cm × 1.9 cm, which was 5.6 cm proximal to the gastroesophageal junction with the neck of the sac, measuring 2.8 cm extending from T5 to T7 thoracic vertebrae (Figs. 2 and 3).

Our case was planned for conservative management initially, but as the patient had a relapse of the symptoms in 2 months, a video-assisted thoracic esophageal diverticulectomy was performed. The patient had complete relief of symptoms following the procedure.

DISCUSSION

A diverticulum (plural: Diverticula) is the medical or biological term for an outpouching of a hollow (or a fluid-filled) structure in the body. Three categories of diverticula are recognized, namely pharyngoesophageal, parabronchial, and epiphrenic [2]. An esophageal diverticulum is a pouch that protrudes outward from the weak portion of the esophageal lining. This pocket-like structure can appear anywhere in the esophageal lining between

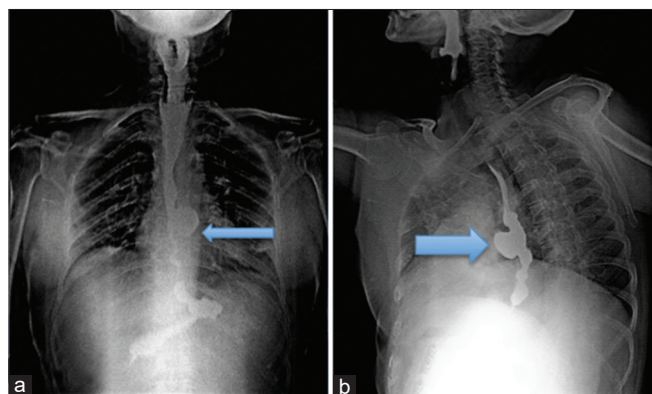


Figure 1: Anteroposterior (a) and lateral (b) films of barium swallow demonstrates large contrast-filled sac in the thoracic esophagus (arrows)

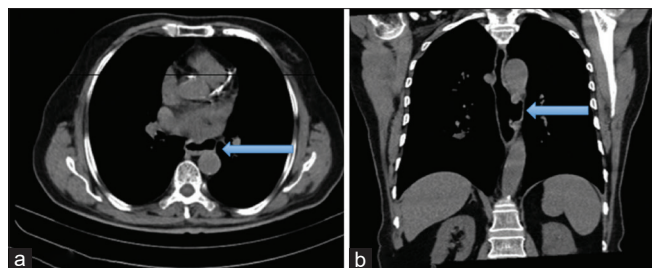


Figure 2: (a and b) Axial and coronal section of computed tomography shows extraluminal outpouching arising from the left lateral wall of the esophagus (arrows)

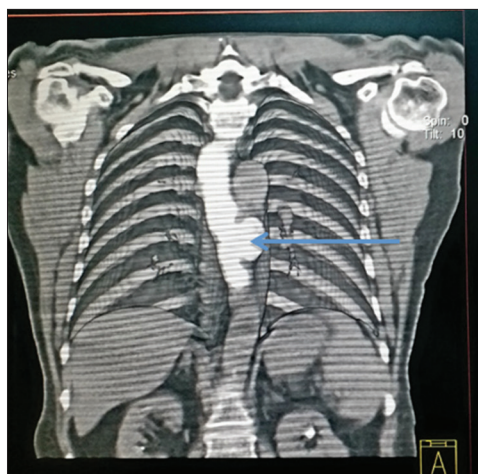


Figure 3: Three-dimensional reconstructed computed tomography image demonstrates contrast-filled extraluminal outpouching arising from the left lateral wall of the esophagus (arrow)

the throat and stomach. There are several areas of structural weakness in the wall of the pharynx and esophagus, where either there are gaps in the muscular walls or the thin strip-like muscles are relatively unsupported by surrounding neck tissue. Transient protrusions through these areas of weaknesses are termed pouches, while persistent protrusions are called diverticula [3,4].

Esophageal diverticula are rare findings that have an estimated incidence of 1:500,000 per year and a prevalence of 0.015–2%. Most esophageal diverticula, which are present in older adults, are acquired lesions. The average patient age at diagnosis is 60–70 years old, and there is a male predominance with a

male-female ratio of around 2–3:1 [5]. The etiology, symptoms, and therapeutic requirements suggest a categorization in three forms: Pharyngoesophageal (Zenker diverticula), parabronchial, and epiphrenic diverticula.

The pathophysiology of the epiphrenic diverticulum is still unclear. The herniation of the mucosa and submucosa through a defect in the muscular layer is probably caused by a longstanding impairment of the esophageal motor activity. However, the associated motor disorder is not always recognized and diagnosed. Typical symptoms include dysphagia, regurgitation of undigested food, borborygmi in the cervical region, chronic coughing, aspiration due to overspill, halitosis, and weight loss [6–8].

Our case came with the classical presentation with typical symptoms and age of presentation, and the diagnosis was confirmed by barium swallow and contrast CT studies and was initially planned for conservative management, but due to failure to obtain symptomatic relief, a surgical approach was carried out. The diagnosis of the esophageal diverticulum is done by simple barium swallow normally revealing the diverticulum. It may also be found with upper GI endoscopy or CT with oral contrast. A barium swallow is the prime diagnostic tool; evaluation of the diverticulum, associated esophageal abnormalities, and complications are assessed by a barium swallow. Esophagoscopy adds little to the evaluation of the diverticulum but may be indicated in the assessment of other esophageal abnormalities. Motility studies, which may be difficult or hazardous to perform, are of little use in the diagnosis and treatment of Zenker's diverticula. Manometric evaluation of mid-thoracic or epiphrenic diverticula usually shows an associated motility disorder and may influence treatment decisions [9].

Some reports were described by Killian-Jamieson on diverticula being detected on ultrasonography of the thyroid gland [10]. Due to the proximity of the upper esophagus to the thyroid gland, pharyngoesophageal diverticula may mimic thyroid nodules on thyroid ultrasonography [11]. A Zenker diverticulum reportedly can be distinguished from a thyroid nodule on ultrasound by the sign of air in the diverticulum. The treatment of esophageal diverticula must be based on the pathophysiology and natural history of the disease; asymptomatic diverticula do not need a specific treatment, small diverticula may be left in place and not resected, medium-size diverticula may be either treated by diverticulectomy, diverticulopexy, or esophagodiverticulostomy in case of pharyngoesophageal diverticula, resection is probably the ideal therapy for larger diverticula, and a myotomy should always be included to the procedure [12].

CONCLUSION

Although our case came with the classical clinical presentation of an esophageal diverticulum, other causes had to be ruled out due to the rare occurrence of this condition. However, through barium studies and CT as imaging modalities, the diagnosis was firmly established. Barium swallow and CECT are non-invasive and the modalities of choice for diagnosing esophageal diverticulum.

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