Large Epiphrenic Diverticulum of Esophagus

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Introduction

Esophageal diverticula are rare pathologies and are commonly classified according to their location as pharyngo-esophageal, midthoracic or epiphrenic diverticula [1]. Epiphrenic diverticulum, or diverticulum of distal esophagus, usually occurs in the distal 10 cm of the esophagus. The patients with epiphrenic diverticulum present with clinical symptoms and signs mimicking those associated with other distal esophageal motility disorders, including hiatal hernia, achalasia and reflux esophagitis [2]. We report a case of epiphrenic diverticulum of esophagus in a 70 year old male.

Case Report

A 70 year old man was admitted to our hospital with the complaints of dysphagia, regurgitation and nocturnal cough. His complaints were progressive and had worsened within last one month. Patient was an old case of bronchial asthma and on regular medication. Physical examination was within normal limits. Chest radiographs in postero-anterior and lateral projections revealed a large, well-defined, smooth margined lesion measuring 85 x 82 x 74 mm in the posterior and middle mediastinum (Fig. 1). An air-fluid level was seen in the lesion. Cardiac size, silhouette and contour were normal and there was no active parenchymal lung lesion. Based on the findings of chest radiograph a differential diagnosis of hiatus hernia, achalasia and epiphrenic diverticulum were considered.

Patient underwent single and double contrast barium swallow examination, which revealed a large outpouching measuring 88 x 84 x 76 mm arising from the left antero-lateral wall of the distal esophagus-suggestive of epiphrenic diverticulum. The neck of the diverticulum was wide and was suggestive of a pulsion diverticulum. The proximal esophagus was mildly dilated. Gastro-esophageal junction was in its normal anatomical position (Figs. 2,3). On fluoroscopy, patient had solitary abnormal contractions, which were suggestive of non-specific esophageal motility disorder. Double contrast films showed normal mucosal pattern in the esophagus and the diverticulum. There was no evidence of mucosal disruption or ulceration.

Upper gastro-intestinal endoscopic examination revealed a large epiphrenic diverticulum. Stationary manometric examination of the esophagus confirmed non-specific esophageal motility disorder. Patient underwent a thoraco-abdominal diverticulectomy and distal esophageal myotomy. The post operative period was uneventful. The patient is on a regular follow up and is presently asymptomatic.

Discussion

Epiphrenic diverticula are rare and comprise about 10% of all esophageal diverticula [1]. An epiphrenic diverticulum is generally believed to represent a form of pulsion diverticulum caused by markedly increased intraluminal esophageal pressures [3]. Epiphrenic diverticulum is generally associated with a concomitant esophageal motor disorder, which is thought to be the cause of the diverticula [4]. 30-40% of epiphrenic diverticula are asymptomatic [2]. The chief complaints of epiphrenic diverticula include dysphagia, regurgitation or vomiting, chest pain and weight loss [5]. Nocturnal

Fig. 1 : Radiograph of chest in postero-anterior projection, showing a large 85 x 82 mm well-defined, smoothly margined lesion with an air-fluid level, overlying the cardiac silhouette. On corroborating with the lateral radiograph, the lesion was localized in the middle and posterior mediastinum.

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Fig. 2 : Barium swallow (AP view), showing a large outpouching measuring 88 x 84 mm arising from the left lateral wall of the distal esophagus. The gastro-esophageal junction is seen in its normal anatomical position.

Fig. 3 : Barium swallow, in right anterior oblique projection, showing a large, smoothly margined outpouching arising from the distal esophagus. The outpouching is seen anterior to the distal esophagus.

coughing, pneumonia and laryngitis may develop secondary to aspiration of undigested food. Our patient had a large diverticulum resulting in dysphagia, regurgitation and nocturnal cough, which could be due to retention and regurgitation of undigested food.

The investigations for the diagnosis of epiphrenic diverticula include chest radiographs, barium swallow, Upper gastro-intestinal (UGI) endoscopy, manometric examinations and computed tomography (CT). Most of the epiphrenic diverticula are diagnosed incidentally. On chest radiographs, a large mass lesion, with an air-fluid level, may be seen in the middle and posterior mediastinum. Barium swallow is the primary modality in the diagnosis of epiphrenic diverticulum. Barium swallow also provides clues to other disorder such as cancer or stricture causing symptoms. UGI endoscopy primarily helps in the exclusion of other esophageal abnormalities. Stationary manometric examination of the esophagus usually shows an associated motility disorder and may influence treatment decisions [6]. CT is indicated when the diverticulum may have to be differentiated from mediastinal abscess, tumors or even hiatus hernia. Epiphrenic diverticulum is typically demonstrated in a CT examination as a thin walled, air or air-fluid filled structure communicating with the esophagus. However, those not associated with a distal esophageal obstruction may remain contracted in the resting state and thus may not be visible [7].

Asymptomatic patients with an epiphrenic diverticulum should be managed conservatively.

Symptomatic patients should undergo surgical treatment. The surgical options include diverticulectomy with long myotomy and an anti-reflux procedure or diverticulectomy with tailored myotomy (according to results of manometry) and an anti-reflux procedure [8].

Conflicts of Interest

None identified

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