Killian-Jamieson Diverticulum: Cervical Oesophageal Diverticulum

Vinay G Zanwar¹, Pravir A Gambhire¹, Ajay S Choksey², Pravin M Rathi³

Abstract
Killian-Jamieson (K-J) diverticulum is an outpouching from the lateral wall of the proximal cervical oesophagus and is less commonly encountered compared to Zenker’s diverticulum (ZD). These diverticulae arise between the fibers of the cricopharyngeus muscle superiorly and longitudinal muscle of the oesophagus inferiorly. In this report we present a case of a symptomatic Killian Jamieson diverticulum and review the clinical presentation, differential diagnosis and radiological findings that distinguish it from the more common Zenker’s diverticulum.

Introduction
Killian Jamieson (K-J) is a cervical oesophageal diverticulum, which is encountered rarely as compared to Zenker’s diverticulum (ZD), with an incidence ratio of 1:4.¹ These diverticulae arise between the fibers of the cricopharyngeus muscle superiorly and longitudinal muscle of the oesophagus inferiorly.² This gap was first described by Killian³ and it represents the area where the recurrent laryngeal nerve enters the pharynx (Figure 1). This finding was later confirmed by Jamieson⁴ and is now termed as “Killian-Jamieson triangle”.⁵

Case Report
A twenty two year old lady presented with progressive dysphagia to solids and liquids which developed over four months; she also experienced night time coughing and hoarseness accompanied by reflux symptoms. She denied having odynophagia, halitosis, weight loss or anorexia. She enjoyed good health till the onset of these symptoms for which she was prescribed pantoprazole 40 mg twice a day and domperidone 10 mg three times a day and was doing well with above medications. An examination of the head and neck was unremarkable. Contrast oesophagogram revealed a large sac at the level of D1 vertebra with no cricopharyngeal bar. Axial CT neck and thorax (Figure 2) demonstrated 3×1.3 cm outpouching of right lateral oesophageal wall at level of C7-D1 vertebra having a broad neck (24 × 6 mm) with evidence of pooling of orally administered contrast. There was no evidence of perilesional fat stranding. Oesophagostroscopy revealed a large pharyngoesophageal diverticulum at 16 cm from incisors (Figure 3). Oesophageal motility disorders were ruled out by oesophagogram. Her symptoms got relieved and hence patient was not willing to undergo surgical treatment.

Discussion
A K-J diverticulum is often unrecognized and misdiagnosed as a Zenker’s diverticulum on endoscopy. It has also been referred to as a “proximal lateral cervical oesophageal diverticulum” or as a “lateral diverticulum from the pharyngoesophageal junction area.”² It is not a true diverticulum as it does not involve all layers of the gastrointestinal wall.⁶ Its pathogenesis is unclear. Dyscoordination of pharyngeal constrictors, cricopharyngeal spasm, failure of relaxation of sphincter and premature contractions have been implicated. But manometric and radiographic studies have failed to unleash underlying mechanism of such pulsion-type diverticulum. Cervical oesophageal diverticulae
found eleven with symptoms. Accurate patients with K-J Diverticulum and pharyngoesophagram of sixteen and Levine reviewed the records and Jamieson diverticulum. In 2001, Rubesin experienced by patients with Killian-Jamieson pain are the most common symptoms lateral view, often with contrast pooling of right lateral esophageal wall with pooling of orally administered contrast.

Dysphagia, cough and epigastric pain are the most common symptoms experienced by patients with Killian-Jamieson diverticulum. In 2001, Rubesin and Levine reviewed the records and pharyngoesophagogram of sixteen patients with K-J Diverticulum and found eleven with symptoms. Accurate differentiation of K-J and Zenker’s diverticulum requires radiographic studies. On barium oesophagram, Zenker’s diverticulum is seen on lateral view, often with contrast retained within the diverticulum. A prominent cricopharyngeal bar is often observed. A Killian-Jamieson diverticulum is seen on the lateral wall of the pharyngoesophageal junction on anteroposterior view and with contrast possibly being retained. At times this differentiation becomes difficult in large diverticulum with extension below. More precise type and location of diverticulum can only be obtained with the axial CT scan of neck. Additional advantage being detection of an occult malignancy arising in the wall of long standing diverticulum, the reported incidence of same being 0.4%.

Only symptomatic patients or those having large diverticulae should be treated. Due to the rare presentation of Killian-Jamieson diverticulae, its suggested management is scarce in literature. The treatment options are either surgical or endoscopic diverticulotomy or diverticulectomy with oesophagomyotomy. Diverticulotomy has been the preferred approach in patients who are good surgical candidates. The only major concern in this is the risk of causing mediastinitis. The diverticulotomy creates a communication between the diverticular sac and the esophageal lumen for free drainage of food material without retention inside. Additional oesophagomyotomy relieves the potential functional obstruction in the circular esophageal muscle inferior to the diverticula. Endoscopic treatment of lateral diverticulae poses inherent risk of recurrent laryngeal nerve injury because of their intimate relationship in the K-J triangle. However in recent times, the surgical approach is being challenged by endoscopic diverticulotomy. It has been proved to be safe and successful. The method involves the use of a needle-knife, an isolated-tip needle-knife papillotome (Iso-Tome) for the dissection of the tissue bridge of the diverticulum and the use of fitted overtube, a nasogastric tube, diverticuloscope for adequate visualization of the tissue bridge and protection of the surrounding tissue. Diverticulopexy can be considered alternative to diverticulotomy.

However definitive recommendation cannot be made and the approach has to be individualized according to local expertise and patient preference.

References