Pharyngoesophageal diverticuli are classified based on their anatomic location. Zenker’s diverticulum, the most common form, originate below the inferior constrictor and above the cricopharyngeus and descend into the retropharyngeal space (Figure 1). Ekberg and Nylander first described the Killian-Jamieson Diverticulum (KJD) in 1983. This diverticulum is less common than the classic Zenker’s diverticulum and originates below the cricopharyngeus, but resides anterolateral to the esophagus (Figure 2). Both diverticuli have similar clinical presentations, but are readily distinguishable based on radiographic criteria.

As in other forms of esophageal diverticulum (i.e. Zenker’s), recent literature has described minimally invasive operative and office-based endoscopic approaches to their management. We aim to define, what we believe is, the only safe recurrent laryngeal nerve (RLN) sparing treatment approach for the K-J form of an esophageal diverticulum.

**Anatomic Description**

Zenker’s Diverticulum are located below the inferior pharyngeal constrictor and above the cricopharyngeus (Figure 1).

![Figure 1. Illustration depicting the classic location of a Zenker’s Diverticulum. The pouch originates posteriorly below the inferior pharyngeal constrictor and above the cricopharyngeus.](image)

KJD are located located inferior to the transverse portion of the cricopharyngeus muscle and lateral to the longitudinal muscle of the esophagus where it inserts to the inferior border of the cricoid cartilage (Figure 2). Within this triangular depression sits the anterior branch of the recurrent laryngeal nerve (RLN) and pharynx. The pouch originates posteriorly below the inferior pharyngeal constrictor and above the cricopharyngeus. This space is more anterolateral than the more common Zenker’s diverticulum, which is located posteriorly, between the inferior pharyngeal constrictor and the cricopharyngeus.

![Figure 2. The location of the Killian-Jamieson Diverticulum is more anterior and lateral. The pouch is located below the cricopharyngeus and is closely related to the recurrent laryngeal nerve. Inset: Illustration showing how endoscopic diverticulotomy would damage the recurrent laryngeal nerve. (CP: Cricopharyngeus; KJD: Killian-Jamieson Diverticulum; RLN: Recurrent Laryngeal Nerve).](image)

**Case Presentation**

- 56 year old female with no significant past medical history presented with a several month history of progressive dysphagia to solids
- Work up with a swallow study that identified a 2.5cm diverticulum located anterolaterally
- Esophagoscopy with a Weerda Diverticuloscope performed to confirm presence of Killian-Jamieson Diverticulum
- Transcervical approach performed and the RLN was noted to be running over the base of the diverticulum (Figure 4A)
- Pouch resected with a stapler and the RLN was preserved (Figure 4B)
- Had blind endoscopic diverticulectomy been performed, the RLN would have been transected (Figure 3, inset).

**Discussion**

KJD is a relatively newly described diverticulum and because of its rare incidence, the management remains controversial. In addition to this case, three others have been published regarding the management of KJD. In two of the three publications, the RLN was noted to be closely related to the base of the diverticulum. However, recent literature from Gastroenterology journals has suggested that a blind endoscopic diverticulotomy can be performed on KJD. Both publications state the procedure was well tolerated. While Tang et al. did comment on no hoarseness, neither has documented post-operative laryngoscopy to confirm that the recurrent laryngeal nerve was not damaged.

**Conclusion**

Because the Killian-Jamieson Diverticulum originates in close proximity to the insertion of the RLN into the cricothyroid joint, it can easily be found running over the base of the pouch. Performing blind endoscopic diverticulotomy puts the nerve at unnecessary risk. An open transcervical approach is the only means to effectively identify the nerve and preserve it prior to removing the pouch.

**References**

1. Ekberg O. Pharyngoesophageal diverticulum arising from Laimer’s triangle. Eur Arch Otorhinolaryngol. 2001; 258: 164-167