Abstract

The Killian-Jamieson diverticulum is a rare esophageal diverticulum. It originates inferior to the transverse portion of the cricopharyngeal muscle, resides anterolateral to the esophagus, and has a close relationship with the recurrent laryngeal nerve. Surgical management of symptomatic Killian-Jamieson diverticulum has been described via open cervical and flexible endoscopic diverticulotomy (needle-knife cautery) approaches. The safety and efficacy of rigid endoscopic approaches have not yet been described. We describe a safe and efficacious rigid endoscopic approach to treatment of symptomatic Killian-Jamieson diverticulum in two patients.

We present two cases of symptomatic Killian-Jamieson diverticulum successfully treated with a rigid endoscopic stapler-assisted diverticulotomy technique. In both patients, exposure was obtained with an expansible diverticuloscope and the common wall was divided with a single incision line, controlled with staples. Both patients experienced symptomatic relief and had no evidence of injury to the recurrent laryngeal nerve. The endoscopic stapler-assisted diverticulotomy can serve as a safe and efficacious technique for treatment of symptomatic Killian-Jamieson diverticulum.

Case Presentation

Case 1. A 55 year old female presented with a two-year history of solid and liquid food dysphagia with frequent choking, and regurgitation after laying supine. Barium swallow revealed a left sided one to two centimeter upper esophageal diverticulum with internal debris. Endoscopic esophageal video swallowing evaluation showed rapid swallowing of soft and liquid food boluses and no regurgitation with applied neck pressure. She was taken to the operating room where the diverticulum was inspected and found to be consistent with a Killian-Jamieson diverticulum (Figure 1a). It was repaired via endoscopic stapler assisted diverticulotomy technique without complication Figure 1b). One week post-operatively she had improvement in her swallowing with complete resolution of her symptoms by three months post-operatively. She had no changes to her voice following the procedure and post-operative strabovideoscopy showed stable pre-operative left superior laryngeal nerve paresis and otherwise normal vocal fold motion.

Discussion

The Killian-Jamieson diverticulum is a rare esophageal diverticulum which originates inferior to the transverse portion of the cricopharyngeal muscle and resides anterolateral to the esophagus. It has a close relationship with the recurrent laryngeal nerve. It was first described in 1833 by Ebberg and Nylander. It differs from the Zenker’s diverticulum which originates posteriorly below the inferior constrictor and above the cricoid cartilage.

Endoscopic stapler-assisted repair for Zenker’s diverticulum has been well described and is a safe and efficacious technique for Zenker’s diverticulum repair. There are few reports in the gastroenterology literature that have described flexible endoscopic repair of the Killian-Jamieson diverticulum; however, there have been no reports describing rigid endoscopic stapler-assisted diverticulotomy repair of the Killian-Jamieson diverticulum.

Undavia et al report a case of open transcervical excision for treatment of Killian-Jamieson diverticulum and advocate the open approach to avoid inadvertent transection of the recurrent laryngeal nerve. The endoscopic approach does take into account the risk to the recurrent laryngeal nerve by taking care to conservatively divide the common wall. In addition, careful patient selection is imperative. Patients with limited mouth opening and/or restriction in neck hyperextension are likely to limit endoscopic exposure of the diverticulum, and thus, would not be ideal candidates for this technique. Aside from the risk to the recurrent laryngeal nerve, the endoscopic technique also includes risk of injury to the esophagus, hypopharyngeal structures, teeth, and lips. The benefits of the endoscopic technique are expected to be similar to those seen in endoscopic Zenker’s diverticulum repair such as decreased operative time, decreased length of stay, and quicker return to oral intake.

Conclusion

The endoscopic stapler-assisted diverticulotomy can serve as a safe and efficacious technique for treatment of symptomatic Killian-Jamieson diverticulum. However additional cases and research are necessary to further assess the technique’s safety and efficacy.

References


Endoscopic Stapler-Assisted Diverticulotomy Repair of Killian-Jamieson Diverticulum

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