



CASE REPORT

Transcervical diverticulectomy for Killian–Jamieson diverticulum



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Summary Surgery for Killian–Jamieson diverticulum of the esophagus is scarcely reported in the literature owing to the rarity of this entity. This is a case report of such a diverticulum and a description of the transcervical diverticulectomy that we performed on a 49-year-old lady. The patient was investigated for symptoms of gastroesophageal reflux disease and was diagnosed with a left-sided Killian–Jamieson diverticulum.

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1. Introduction

A Killian–Jamieson diverticulum (KJD) is a lateral out-pouching from the pharyngoesophageal junction through a muscle gap located inferior to the cricopharyngeus and lateral to the longitudinal muscle of the esophagus.¹ This gap known as the Killian–Jamieson space is distinctively different from the Killian’s dehiscence, a muscular gap responsible for the development of Zenker’s diverticulum (ZD).^{1,2} It is a rarer form of hypopharyngeal diverticuli compared to ZD, and its incidence is quoted as one-quarter of the incidence of ZD.^{2,3} It is differentiated from ZD via

barium contrast esophagography, where ZD arises above the cricopharyngeal bar and extends posteriorly, whereas, KJD arises below the bar and extends laterally.²

Over the past 2 decades, endoscopic diverticulotomy has gained popularity as the treatment of choice for ZD. However, the same could not be said of KJD. Although there are several reports on the feasibility of endoscopic diverticulotomy,^{4,5} most authors prefer the open transcervical approach for fear of possible injury to the recurrent laryngeal nerve (RLN).^{3,6–9}

This is a case report of a middle-aged lady who was diagnosed with a left-sided KJD while being investigated for symptoms of gastroesophageal reflux disease. We describe the operative technique of transcervical diverticulectomy and provide a brief review of the literature.

2. Case report

A 49-year-old woman presented with a 3-year history of recurrent heartburn, acid brash, frequent regurgitation of

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food particles, and halitosis. She denied having any dysphagia or sensation of globus. She was a diabetic on sulfonylureas, and otherwise her medical history was unremarkable. She had been previously prescribed H2 antagonists and proton pump inhibitor therapy from multiple primary care providers with no improvements of her symptoms. As her symptoms of heartburn and regurgitation worsened (occurring >4 days per week) and began to affect her activities of daily living, she presented to the surgical unit and underwent upper endoscopic assessment. Upper endoscopy showed a pharyngoesophageal diverticulum and the presence of hiatus hernia with reflux oesophagitis. The *Helicobacter pylori* status was negative. A barium swallow performed with the patient erect and in left lateral position demonstrated a left-sided diverticulum in the region of the pharyngoesophageal junction with a frontal projection, highly suggestive of a KJD (Fig. 1).

Surgical intervention was offered, and the patient opted for a laparoscopic fundoplication to address her reflux symptoms owing to her hiatus hernia with esophagitis, and a transcervical diverticulectomy for her KJD.

2.1. Surgical technique

The patient underwent laparoscopic fundoplication in a Lloyd-Davies, reverse Trendelenburg position. Upon completion of the anterior partial fundoplication, she was

repositioned in the supine position with her head rotated slightly to the right, and sandbags were positioned between her scapulas to help hyperextend her neck. A neck collar incision was performed with a scalpel and deepened through the subcutaneous fat and platysma using electrocautery. Subplatysmal flaps were raised to expose the strap muscles and her left sternocleidomastoid muscle. The dissection continued along the anterior border of the left sternocleidomastoid muscle to enable the muscle to be retracted laterally to expose the left carotid sheath, which was similarly retracted laterally. The omohyoid muscle (Fig. 2B) and the middle thyroid vein (Fig. 2C) were ligated with 2–0 silk ties prior to being divided in between the suture. A careful dissection of the Zuckerkandl's tubercle with exposure of the left RLN was performed. The base of the diverticulum was noted immediately posterior to the nerve, and meticulous dissection was performed to free the nerve and retract it medially to allow further dissection of the diverticulum free from its loose adhesions. Once the diverticulum was completely free and delineated, a TA 45 endostapler, 4.8-mm stapler height (Covidien Autosuture, Norwalk, USA) was positioned across the neck of the diverticulum, parallel to the esophagus. Care was taken to ensure that no adjacent structures were inadvertently caught in the stapler and the esophagus was not narrowed. The diverticulum was then stapled and transected using a scalpel (Fig. 2E,F). The wound was irrigated, and a small 10F vacuum drain was placed in the retropharyngeal space. This drain was kept for 24 hours.

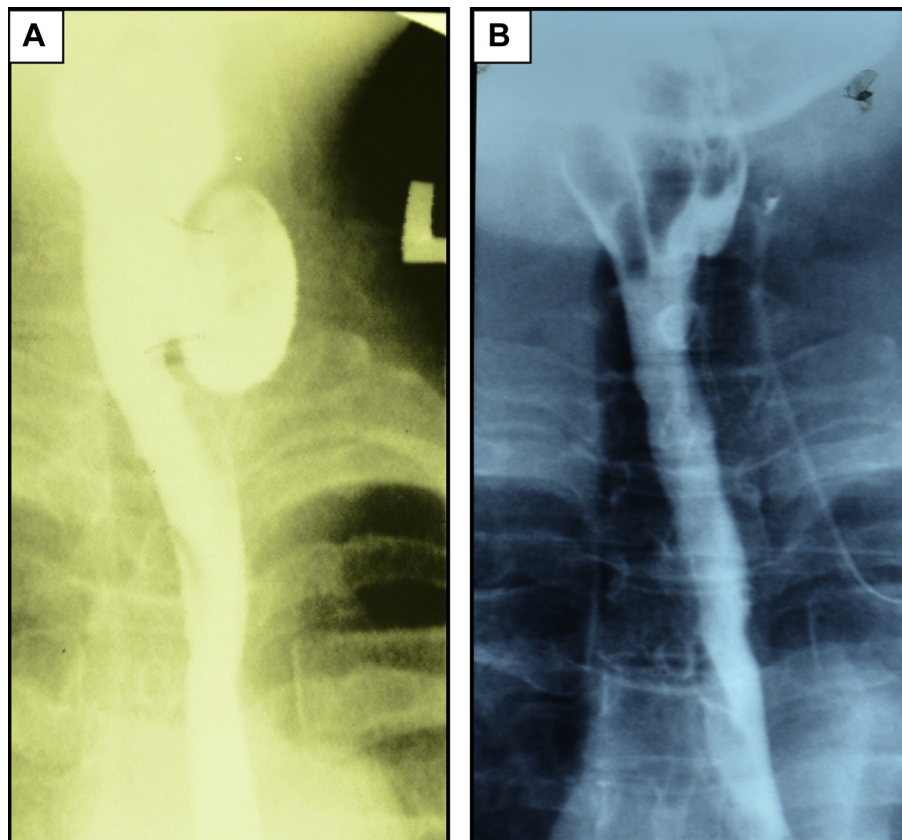


Figure 1 Barium pharyngoesophagram obtained with patient in the erect position shows a left-sided Killian–Jamieson diverticulum (A) prior to surgery, and gastrograffin oesophagogram shows no evidence of leak or residual diverticulum (B) after the surgery.

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