

CASE REPORT

DOI: 10.5336/caserep.2020-79572

A case of Killian-Jamieson Diverticulum Accompanied by a Thyroid Nodule

Alper BOZ^a, Hasan Zafer ACAR^b^aClinic of General Surgery, Ortaca Yücelen Hospital, Muğla, TURKEY^bDepartment of General Surgery, Girne American University Faculty of Medicine, Nicosia, CYPRUS

ABSTRACT Killian-Jamieson diverticulum (KJD) is a rare case and could be often misdiagnosed as thyroid nodules. They represent symptoms of dysphagia and globus most frequently. A 64-year-old female patient was admitted to our hospital with complaints of dysphagia. Fine needle aspiration biopsy and left total thyroidectomy were performed upon the diagnosis of thyroid nodular hyperplasia on ultrasonography. Diverticulotomy was performed following the detection of KJD during the surgery. There were no complications in the postoperative period, and the patient was discharged on the 5th postoperative day without vocal cord paralysis.

Keywords: Diverticulum, esophageal; deglutition disorders

Killian-Jamieson diverticulum (KJD) is a rare type of pharyngoesophageal diverticulum and was first described in 1985. It is usually encountered in adults. KJD arises just below the cricothyroid muscle and extends in the anterolateral direction. As compared to Zenker's diverticulum, KJD is less common in 1/4 ratio.¹ Although it is formed unilateral in general, sometimes occur bilaterally.² Zenker's diverticulum has been reported in literature.³ The most frequent symptoms are dysphagia and globus.

In addition, cough, chest pain and regurgitation can be seen. It is often misdiagnosed with thyroid nodules.⁴ In the differential diagnosis; ultrasonography (USG), barium esophagography, computed tomography (CT) and flexible endoscopy are important.

Diverticulotomy with transcervical approach is the most commonly used treatment method. In addition, myotomy, endoscopic diverticulotomy and diverticulopexy treatment managements are performed. The most important complications faced following the surgery are relapse and suture leakage.

CASE REPORT

A 64-year-old female patient was admitted to our hospital with complaints of dysphagia and globus. She has undergone breast cancer surgery 5 years ago and radiotherapy was performed. She has the complaints of dysphagia and progressed for the last 2 months. In USG evaluation, a 2.5 cm sized nodule was noticed in the left thyroid lobe. Benign cytological findings were obtained as a result of fine needle aspiration biopsy. Due to her history of breast cancer and radiotherapy and rapidly progressing complaints, surgical resection and evaluation was performed.

During surgery, another mass was noticed except for nodular hyperplasia in the left thyroid cavity. Left total thyroidectomy was performed. Careful dissection of the mass originating from the esophagus and extending in the anterolateral direction, a 3.5 cm diameter diverticulum adjacent to the nervus laryngeus inferior (NLI) was identified to be KJD (Figure 1).

Diverticulotomy was performed while preserving NLI. Nasogastric tube (NGT) was not ap-

Correspondence: Hasan Zafer ACAR

Department of General Surgery, Girne American University Faculty of Medicine, Nicosia, CYPRUS

E-mail: hzacar@gmail.com

Peer review under responsibility of Türkiye Klinikleri Journal of Case Reports.

Received: 13 Oct 2020

Received in revised form: 04 Sep 2020

Accepted: 07 Sep 2020

Available online: 31 Dec 2020

2147-9291 / Copyright © 2021 by Türkiye Klinikleri. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



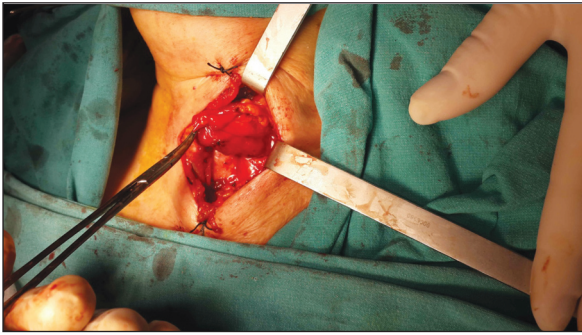


FIGURE 1: Killian-Jameison diverticulum case diagnosed during thyroidectomy.

plied. She was given oral clear liquids on the 2nd postoperative day as no complication has occurred. She was discharged on the postoperative 5th day.

Written informed consent was obtained from the patient for publication of this case report and accompanying image.

DISCUSSION

KJDs are very rare anatomical disorders. In a meta-analysis conducted by Haddad in recent years, a total of 68 KJD cases were reported in 59 articles.⁴ The most common symptom in this study was dysphagia and the second most common symptom was thyroid nodule is suspicion. Because of its anatomical location and proximity to NLI, surgical resection is preferred more than endoscopic treatment.

In our case, the patient was admitted to our hospital with the complaints of dysphagia and globus and she underwent thyroidectomy with the diagnosis of thyroid nodules. Although USG is the most commonly used method in differential diagnosis, the most effective methods for definitive diagnosis are esophagography with barium and flexible endoscopy.^{3,5} In our case, KJD was not diagnosed with the USG before the surgery. A large thyroid nodular hyperplasia on the same side in the patient also camouflaged the KJD.

In the literature, KJD cases with thyroid nodules have been reported in this way.^{4,6} Swallowing test was recommended in cases with suspected KJD during USG.⁷ We did not perform a swallowing test since we could not realize that there was a case of KJD in our patient accompanying the thyroid nodule detected

during USG. Since NLI generally progresses close to KJD, endoscopic managements are not recommended in the treatment of KJD.¹

However, Yang et al. reported that they performed an endoscopic diverticulotomy using a scissor type electro-surgical knife in a KJD case and no complications were observed.⁸ Saisho et al. performed diverticulotomy on one side and diverticulopexy on other side in a patient with 2-sided KJD with poor general health and reported that there was no complication following the operation.²

Ataka et al. reported that NLI injuries could be prevented by performing intraoperative neural monitoring in a case that they performed transservical diverticulotomy.⁹

Haddad et al. evaluated a series of 32 KJD cases as a large-scale analysis. Surgical resection was performed in 22 and laparoscopic diverticulotomy was performed in 10 of them.

Recurrence was observed in 2 of the patients who underwent laparoscopic diverticulotomy.⁴

One of the most important complication occurring in the pharyngoesophageal diverticulum is leakage from the incision site. To prevent this, some surgeons insert NGTs after the operation. Zuhudkevic et al. compared the complication rates in 64 cases with and without NGTs in 64 esophageal diverticulotomy cases. They demonstrated that NGTs did not reduce complication rates.¹⁰ We did not apply NGTs to our patient after the operation.

KJD should be considered in patients with complaints of swallowing difficulties, and differential diagnosis should be made with methods such as USG, barium esophagography, flexible endoscopy and CT. Since there are no large case series in which laparoscopic methods were performed in cases diagnosed with KJD, we think that surgical resection methods should be preferred by performing intraoperative nerve monitoring.

Acknowledgement

We would like to thank to Prof. Dr. Recep Songün, Head of the Department of Translation and Interpretation in English at Girne American University, which translates the article in English.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or mem-

bers of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Hasan Zafer Acar, Alper Boz; **Design:** Hasan Zafer Acar; **Control/Supervision:** Hasan Zafer Acar; **Data Collection and/or Processing:** Alper Boz; **Analysis and/or Interpretation:** Hasan Zafer Acar; **Literature Review:** Hasan Zafer Acar; **Writing the Article:** Hasan Zafer Acar; **Critical Review:** Hasan Zafer Acar.

REFERENCES

1. Kim DC, Hwang JJ, Lee WS, Lee SA, Kim YH, Chee HK. Surgical treatment of Killian-Jamieson diverticulum. Korean J Thorac Cardiovasc Surg. 2012;45(4):272-4. [PubMed] [PMC]
2. Saisho K, Matono S, Tanaka T, Mori N, Hino H, Fujisaki M, et al. Surgery for Killian-Jamieson diverticulum: a report of two cases. Surg Case Rep. 2020;6(1):17. [Crossref] [PubMed] [PMC]
3. Stewart KE, Smith DRK, Woolley SL. Simultaneously occurring Zenker's diverticulum and Killian-Jamieson diverticulum: case report and literature review. J Laryngol Otol. 2017;131(8):661-6. [Crossref] [PubMed]
4. Haddad N, Agarwal P, Levi JR, Tracy JC, Tracy LF. Presentation and management of Killian-Jamieson diverticulum: a comprehensive literature review. Ann Otol Rhinol Laryngol. 2020;129(4):394-400. [Crossref] [PubMed]
5. Yun PJ, Huang HK, Chang H, Lee SC, Huang TW. Endoscopic diverticulotomy with a stapler can be an effective and safe treatment for Killian-Jamieson diverticulum. J Thorac Dis. 2017;9(9):E787-E791. [Crossref] [PubMed] [PMC]
6. Saylam G, Keseroğlu K, Bayır Ö, Tatar EÇ, Korkmaz MH. Coincidental Killian-Jamieson diverticulum during thyroid surgery: a rare cause of dysphagia. Turk Arch Otorhinolaryngol. 2016;54(4):165-7. [Crossref] [PubMed] [PMC]
7. Cao L, Ge J, Zhao D, Lei S. Killian-Jamieson diverticulum mimicking a calcified thyroid nodule on ultrasonography: a case report and literature review. Oncol Lett. 2016;12(4):2742-5. [Crossref] [PubMed] [PMC]
8. Yang D, Draganov PV. Endoscopic Killian-Jamieson diverticulotomy using a scissor-type electrosurgical knife. Endoscopy. 2018;50(7):E175-E176. [Crossref] [PubMed]
9. Ataka R, Tsunoda S, Goto S, Nishigori T, Hisamori S, Obama K, et al. Killian-Jamieson diverticulum safely resected using a manual intraoperative neural monitoring system: a case report. Surg Case Rep. 2020;6(1):43. [Crossref] [PubMed] [PMC]
10. Zhukhovitskaya A, Weiland DJ, Goshtasbi K, Verma SP. Is nasogastric tube feeding necessary after hypopharyngeal diverticulum surgery? Am J Otolaryngol. 2020;41(3):102453. [Crossref] [PubMed]