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Case Report

Thyroglossal cyst fistulized to the skin accompanying multinodular goiter in an adult: A case report

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ABSTRACT

Thyroglossal duct cyst (TGDC) consists of remnants of the thyroglossal duct during embryological development. It usually appears during childhood. A 56-year-old female patient presented with swelling and discharge in the midline of the neck. The patient underwent Sistrunk's procedure and total thyroidectomy through a single incision transversely to the cyst. Cysts, which are unnoticed and cannot be diagnosed in childhood, rarely show up complicatedly in adulthood. These major complications are papillary carcinoma, squamous cell carcinoma and fistulization to the skin. Thyroglossal duct cysts (TGDC), which can gain a malignant characteristic in adulthood, should be surgically treated during childhood.

KEYWORDS: Sistrunk's procedure; Thyroglossal cyst; Total thyroidectomy; Multinodular goiter; Skin fistulization

INTRODUCTION

Thyroglossal duct cyst (TGDC) consists of remnants of the thyroglossal duct during embryological development^[1]. Although the incidence of its coexistence with malignancy in childhood is low^[2], it can be seen with malignancies as age progresses^[1,3,4]. The cases reporting the complication of fistulization of the cyst in adult patients are only a few in the literature^[5,6]. In this case, we planned to present the operation of a complicated thyroglossal cyst fistulized to the skin, which was seen with multinodular goiter, using a single incision line.

CASE REPORT

A 56-year-old female patient presented to the General Surgery Outpatient Clinic of Antalya Training and Research Hospital with the complaint of swelling and discharge in the midline of the neck in January 2018. On her examination, she was diagnosed with thyroglossal cyst fistulized to the skin and multinodular goiter [Figure 1]. Magnetic Resonance image [Figure 2]. Her neck USG (Ultrasonography) showed hypoechoic nodular appearance with a heterogeneous internal structure and no significant Doppler flow signal measuring ~14x6.5 mm in the midline of the neck (complicated thyroglossal cyst?) and multiple isoechoic nodular appearances with a heterogeneous internal structure in both lobes and at the isthmus level in the thyroid parenchymal areas, the largest of which was measured as 21x13 mm [Figure 3]. The fine-needle aspiration biopsy of the thyroid was reported as insignificant atypia. Sistrunk procedure and thyroidectomy were simultaneously performed on the cystic structure and multinodular goiter mass with no malignant findings in the pathology report, using a single incision transversely to the cyst. No complication developed. The patient was discharged on the second postoperative day. Postoperative first month image [Figure 4]. One year after surgery [Figure 5].

DISCUSSION

Thyroglossal duct cyst (TGDC) is relatively a childhood disease because of being a defect that occurs during embryological development^[1]. Cysts, which are unnoticed and cannot be diagnosed in childhood, rarely show up complicatedly in adulthood. This disease brings about some complications. These major complications

are papillary carcinoma^[1,3,4,7], squamous cell carcinoma^[8,9,10] and fistulization to the skin^[5,6]. Tissue remnants forming during embryological development may gain a malignant characteristic over time. In our case, no evidence of malignancy was found except for atypical cells as a result of fine needle aspiration biopsy of the thyroid. It is not surprising that cystic formations become infected over time, for this reason, the infected cyst in our case became complicated by fistulizing to the skin along with malodorous discharge. It is noteworthy that Sistrunk procedure and total thyroidectomy were performed through the same incision line. In addition to reducing the complication rate, this surgical technique produced positive cosmetic results in the patient.

CONCLUSION

Thyroglossal duct cyst (TGDC) is a common embryonic developmental defect in children. Besides it may develop malignant characteristics over the years, it can fistulize to the skin and other tissues. Its surgical treatment in childhood will reduce the complication rate.

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Compliance with Ethical Standards

Conflict of Interest: OG declares no conflict of interest or financial disclosure.

MNK declares no conflict of interest or financial disclosure.

Informed consent

Informed consent of the patient was obtained.

Formal consent is not required for this type of study.

OG: Author of the article

MNK: Organizer of the article

REFERENCES

1. Van Beck J, Khaja SF. Thyroglossal Duct Cyst Carcinoma in a Young Female: Case Report and Review of Literature. *Case Rep Otolaryngol*. 2019;2019:4069375.
2. Thompson LDR, Herrera HB, Lau SK. Thyroglossal Duct Cyst Carcinomas in Pediatric Patients: Report of Two Cases with a Comprehensive Literature Review. *Head Neck Pathol*. 2017 Dec; 11(4): 442-449.
3. Thompson LDR, Herrera HB, Lau SK. Thyroglossal Duct Cyst Carcinomas: A Clinicopathologic Series of 22 Cases with Staging Recommendations. *Head Neck Pathol*. 2017; 11 (2): 175-185.
4. Wang SX, Huang LM. Papillary carcinoma in a thyroglossal duct remnant: a case report. *Zhonghua Er Bi Yan Hou Tou Jing Wai Ke Za Zhi*. 2019; 54 (7): 548-549.
5. Ballivet de Régloix S, Maurin O, Crambert A, Genestier L, Bonfort G, Pons Y. [Congenital cysts and fistulas on the neck in adults]. *Presse Med*. 2019 Jan; 48 (1 Pt 1): 29-33.
6. Gadzhimirzaev GA, Asiyatillov AK, Dzhamaludinov YA, *et al*. [Congenital cysts and fistulas on the neck]. *Vestn Otorinolaringol*. 2016; 81 (5): 27-29.
7. Jena A, Patnayak R, Santisudha S, Senapati JN, Pani J, Panda AK. Papillary Carcinoma in Thyroglossal Cyst: An Unusual Case. *Indian J Surg Oncol*. 2019; 10 (2): 410-412.

8. Moreno AJ, Wang B. 18F-FDG PET/CT of Squamous Cell Carcinoma in a Thyroglossal Duct Cyst. *Clin Nucl Med*. 2019; 44(1): e24-e25.
9. Huang Q, Shen Y, Wang AY., *et al.* Squamous cell carcinoma arising from a thyroglossal duct cyst: A case report and review of the literature. *SAGE Open Med Case Rep*. 2018; 6: 2050313X18767050.
10. Shah S, Kadakia S, Khorsandi A, Andersen A, Iacob C, Shin E. Squamous cell carcinoma in a thyroglossal duct cyst: A case report with review of the literature. *Am J Otolaryngol*. 2015; 36 (3): 460-2.



Figure 1: Thyroglossal cyst fistulized to the skin

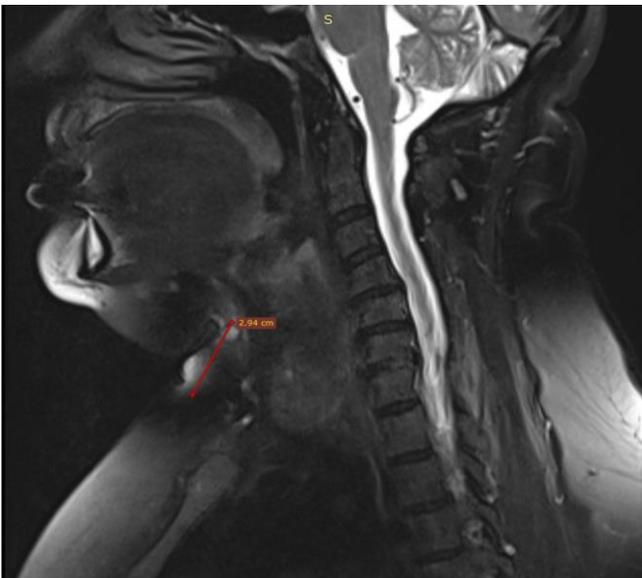


Figure 2: Magnetic resonance imaging of the thyroglossal cyst

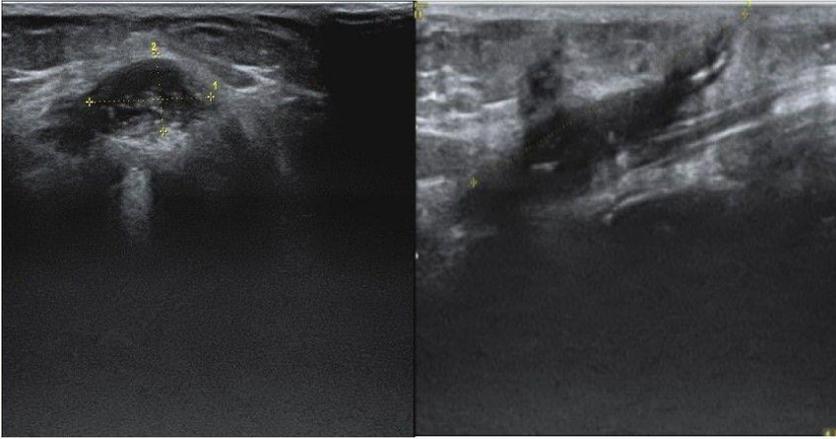


Figure 3: Multinodular goiter and fistulized thyroglossal cyst ultrasonography image

Figure 3: Multinodular goiter and fistulized thyroglossal cyst ultrasonography image

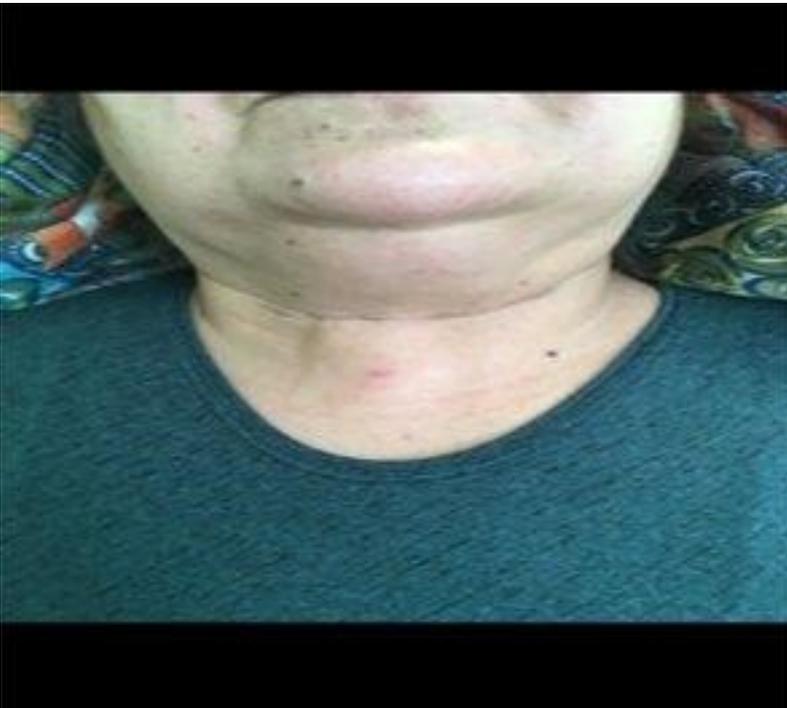


Figure 4: Postoperative first month image



Figure 5: One year after surgery