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Huge thyroglossal duct cyst in elderly patient: Case report

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ABSTRACT

INTRODUCTION: Thyroglossal duct cyst is the most common congenital neck mass. About 50% of cases present before the age of 10. A second group present in young adulthood.

CASE: We present a case of an 85 years old male patient who presented to us with a huge swelling occupying the whole front of the neck, matching the characters of a thyroglossal cyst by history and clinical examination. The swelling first appeared in early adulthood. He received faulty advice that led him to believe that the operation was too risky. He lived without treatment or complications except for very slow progressive enlargement of the swelling over the years until it became cosmetically very bad and interfering with his daily activities. The swelling was cystic, non-tender with surrounding healthy skin except small area showing minimal signs of inflammation. Neck US and (CT) confirmed the diagnosis of thyroglossal cyst, 92*76 mm in size.

INTERVENTION: We performed surgical excision of the cyst, tract and central part of hyoid bone (Sistrunk operation) and sent the specimen for histopathological evaluation, which confirmed pre-operative diagnosis.

CONCLUSION: Diagnosis of TGDC shouldn't be excluded even in extremes of age, or extreme size, and can be managed according to standard lines of management.

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1. Introduction

Thyroglossal ducts cysts (TGDC) are the most common congenital cyst in the neck. They are epithelial remnants of the thyroglossal tract and present characteristically as a midline neck mass at the level of the thyrohyoid membrane, closely associated with the hyoid bone. Although most patients present as children or adolescents, up to one-third are aged 20 years or older [1,2]. Both sexes are equally affected. Here we present a rare case of TGDC presenting in very old age after reaching a huge size. This work is in line with the SCARE criteria [3].

2. Presentation of case

An 85 years old male patient presented with a huge swelling occupying the whole front of the neck, matching the characters of a thyroglossal cyst by history and clinical examination. The swelling first appeared in early adulthood, around 20 years of age. At that time he received faulty advice that led him to believe that the operation was too risky. He lived without treatment or complications except for very slow progressive enlargement of the swelling over

the years until it became cosmetically very bad and interfering with his daily activities e.g. turning his head during prayer. The swelling was cystic, non-tender, moving up with swallowing and protrusion of the tongue. Surrounding skin was healthy except small area showing minimal signs of inflammation.

Neck Ultra-sonography (US) showed large cystic lesion in the front of the neck with thick wall and turbid fluid content, recommending computed tomography (CT) of the neck. Multislice CT showed a large cyst 92*76 mm in size, with no nodules or septations, consistent with thyroglossal duct cyst (Figs. 1–5).

We performed surgical excision of the cyst, tract and central part of hyoid bone (Sistrunk procedure) and sent the specimen for histopathological evaluation.

3. Results

The patients wound healed adequately with no complications. Pathology report came back consistent with the pre-operative diagnosis of TGDC, showing the lesion to be lined by mature stratified squamous epithelium with surrounding mild inflammatory infiltrate, and no thyroid tissue.

4. Discussion

The thyroid gland originates at the foramen cecum of the tongue, at the apex of the V-shaped sulcus formed by the circumvallate

Abbreviations: TGDC, thyroglossal duct cyst; MSCT, multislice computed tomography.

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Fig. 1. Huge mid-line neck swelling; The patient's clinical presentation with a huge swelling matching the characters of a TGDC.

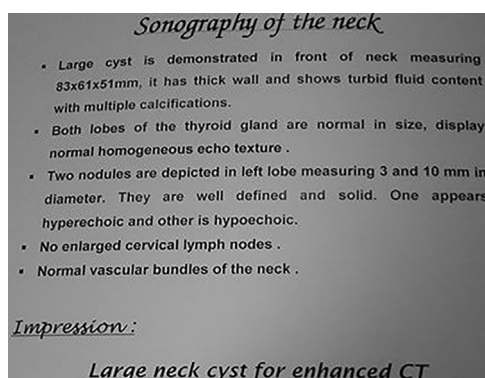


Fig. 2. Neck US report; Sonography demonstrating huge (83 × 61 × 51 mm) mid-line cyst with thick wall and turbid contents.

papillae [2]. During the fourth week of gestation, a ventral diverticulum of the foramen cecum is formed from the first and second pharyngeal pouches. This diverticulum, with its narrow neck connected to the tongue, descends in the midline of the neck as the thyroglossal tract to the position of the normal thyroid in the base of the neck, where the thyroid lobes separate, by the seventh week. The path of descent is usually anterior to the hyoid bone, but may

be posterior to or through the bone, and ends on the anterior surface of the first few tracheal rings. (The medial portion of thyroid gland)

The tract usually atrophies and disappears by the tenth week of gestation, but remnants of the tract and thyroid tissue associated with it may persist at any point between the tongue and the thyroid. A thyroglossal duct cyst arises as a cystic expansion of a remnant of the thyroglossal duct tract [1,2]. The stimulus for the expansion is not known; one theory is that lymphoid tissue associated with the tract hypertrophies at the time of a regional infection, therefore occluding the tract with resultant cyst formation [4]. Many cystic remnants of the thyroglossal tract are never detected clinically; a postmortem study of 200 adults found a 7 percent incidence of thyroglossal duct cysts [5].

Patients with a TGDC usually present with a midline upper neck cystic swelling, usually causing no symptoms, but may be slightly tender. Often the patient has or recently had an upper respiratory tract infection, but whether the infection leads to cyst formation or simply increases the chance of detection of an already present cyst is uncertain.

The cyst may occur anywhere along the thyroglossal duct tract from the foramen cecum at the base of the tongue to the level of the suprasternal notch. In most cases, the cyst is at or just below the hyoid bone adjacent to the thyrohyoid membrane [2]. Cysts below the thyrohyoid membrane are rare. There are two reported cases, one reaching to the suprasternal notch and the second encroaching into the superior mediastinum, descending all the way to the aortic arch. A TGDC in such a location may be misdiagnosed as a thymic mass and cause confusion [6].

TGDCs are usually within 2 cm of the midline [7], but can be somewhat more lateral and may even be lateral to the thyroid cartilage (more typically on the left). The typical cyst, however, has a close relationship to the hyoid, thyrohyoid membrane, or thyroid cartilage. Classically, TGDCs move up with swallowing or protrusion of the tongue, emphasizing their relationship with the hyoid/larynx complex.

5. Conclusion

Sistrunk procedure is the standard operation for TGDC, and usually optimum. The procedure was successful for this case, which shows that diagnosis of TGDC shouldn't be excluded even in extremes of age, and can be managed according to standard lines of management.

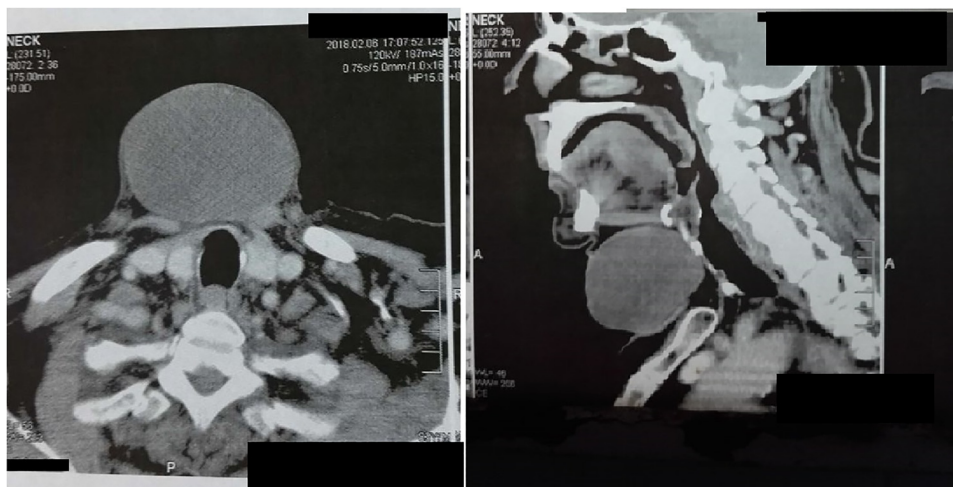


Fig. 3. Multislice CT of the Neck; MSCT findings consistent with thyroglossal duct cyst.

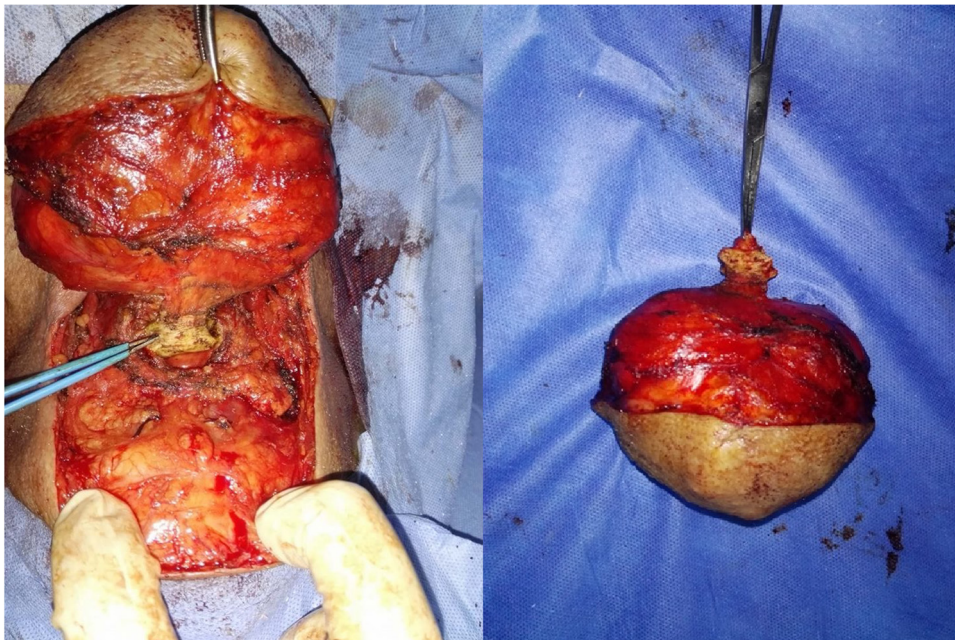


Fig. 4. Cyst and tract; Demonstrating the cyst and tract through the hyoid bone intra-operatively and after excision.



Fig. 5. Post-operative; The patients wound healing adequately, no signs of recurrence so far.

Conflicts of interest

There is no conflict of interest to declare by authors.

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Ethical approval

The study is exempt from ethical approval by our institution, as the case was managed as per standard guidelines and no modification or experimental intervention was employed.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Wael Awad: the conception and design of the study.
Sameh Naguib: acquisition of data.

Yousef El-Ayman: Analysis and interpretation, as well as drafting the article or revising it critically for important intellectual content and final approval of the version to be submitted.

Registration of research studies

There is no such registration.

Guarantor

Yousef El-Ayman.

Provenance and peer review

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