

Case Report On An Atypical Demonstration Of A Thyroglossal Duct Cyst With Cutaneous Extrusion.

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ABSTRACT

The most frequent type of congenital cysts in the head and neck are thyroglossal duct cysts (TGDC), which often manifest as a midline neck mass at the level of the hyothyroid membrane. We discuss a case of a thyroglossal duct cyst with cutaneous extrusion that showed in an unusual way.

INTRODUCTION

Thyroglossal duct cysts (TGDC) make up 70% of all congenital neck anomalies and are the most prevalent type of congenital cyst in the head and neck.¹ It often manifests as a midline neck lump that is asymptomatic and travels upward with swallowing and tongue protrusion.² TGDC typically manifests in kids and teenagers. However, those 20 years of age or older are the ones who receive the diagnosis in up to one-third of cases. Equal amounts of both genders are impacted.³ 10-25% of individuals with TGDC may present with a discharging cutaneous fistula, even though the majority of cases manifest as a cystic mass.³ We provide an instance of a big thyroglossal duct cyst with cutaneous extrusion presenting in an unusual way.



Fig.1. Anterior and Lateral view of the TGDC with cutaneous extrusion initially.

CASE REPORT

An ulcerated midline neck tumour had been present in the 88-year-old woman's neck for five years. One year prior to the patient's presentation, the neck lump was said to have been enlarging and bleeding sometimes while also secreting mucus(fig 1). She didn't have odynophagia, hoarseness, difficulty breathing, weight loss, or loss of appetite in addition to her dysphagia that was progressively getting worse. She has no prior history of radiation exposure, thyroid cancer in her own or her family, hyper- or hypothyroidism, or previous incision and draining of a neck mass. She doesn't drink alcohol and doesn't smoke.

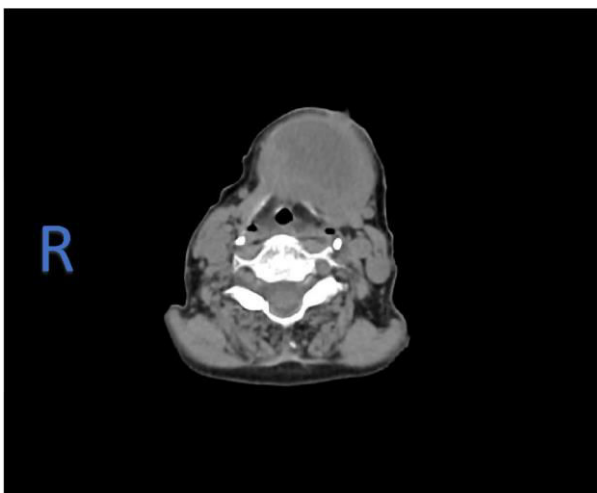


Fig. 2. Contrasted CT of the neck showing the TGDC with cutaneous extrusion (axial).

A 5×5 cm midline neck tumour that moved with swallowing and tongue protrusion was discovered during a physical examination. Over the bulk, there was a mucoid discharge and a clean, punched-out 1 cm anterior skin defect. There were no cervical lymph nodes that could be felt. Flexible nasopharyngoscopy was normal while being given topical anaesthesia. A 4.6×5.6×5.8cm midline heterogenous lesion posteroinferior to the hyoid bone was visible on a neck computer tomography (CT) scan as it protruded through the anterior skin(fig2). The thyroid cartilage is bordered by the lesion, however there is no cartilage degradation. The thyroid gland was seen as existing independently of the lesion(fig 3). An examination with a fine needle aspirator revealed acute inflammatory alterations but no cancer cells.



Fig. 3. Representation one year later with rapidly growing anterior neck mass.

A specialised Sistrunk surgery was performed on the patient (central hyoid bone was resected along with the TGDC, without resection of base of tongue). A multi-lobulated 13×7× 8 cm thyroglossal duct cyst that was eroding through the front neck skin was discovered during surgery. No tract that extended over the tongue musculature was observed. Along with the hyoid bone's body, the cyst was removed together with a circumferential cuff of skin covering the extrusion site. The patient responded favourably to the treatment, and there were no complications. On the first post-operative day, she was released from the hospital with the neck drain still in place. Three days later, she went back for the drain removal. A 7.5 6.0 10.0 cm cyst with

an associated circumferential slice of skin measuring 3.2 cm was discovered during a gross pathological examination. A 4.0 x 2.0 x 1.2 cm adhering bone fragment was found superoposterior to the tumour. Using serial sections, a solid-cystic mass with a substantial fibrous wall was discovered (fig 4). Blood clots covered 85% of the cyst's cavity, and an abscess had formed. The overall results supported the histological diagnosis of a haemorrhagic thyroglossal duct cyst that was infected.



Fig. 4. Giant neck mass cut off via modified Sistrunk procedure, taking a circumferential sliver of anterior neck skin.

DISCUSSION

Thyroglossal duct cysts (TGDC) are caused by the thyroid gland's thyroglossal duct failing to involute during thyroid gland morphogenesis. The median thyroid anlage descends via the epithelial-lined thyroglossal duct during the fourth week of embryonic development to reach its final place in the pre-tracheal area. In most cases, between the eighth and tenth week of life, the tract atrophies and vanishes.² The establishment of a TGDC will be caused by cystic growth of the epithelial remains, which may persist at any point along the course of descent from the foramen caecum to the thyroid gland.⁴ According to Shah et al., TGDCs can develop in the following locations: (1) intralingual, (2) suprahyoid or submental, (3) hypothyroid, and (4) suprasternal, with 60% of cysts being intimately related to the hyoid bone next to the hypothyroid membrane.⁵ One percent of TGDC are known to be malignant, making up the majority. The

benign disorders laryngoceles, dermoid/epidermoid cysts, branchial cleft cyst, abscess, thymic cyst, and lymphatic malformation are some differentials for TGDC. Squamous cell carcinoma, thyroid metastasis, and other metastatic diseases are examples of malignant differentials. Even though a strong association between the TGDC and the hyoid bone is a crucial differentiating characteristic, a conclusive diagnosis can only be made after pathological assessment.⁶

In the instance of our patient, it was crucial to rule out cancer, especially in light of the rapid growth and deteriorating skin ulceration. The most frequent clinical manifestation of TGDC, at 75%, is a cervical cystic neck mass, with preoperative infection (34%) being the most common consequence of TGDCs, according to a systematic analysis by Gioacchini et al.³ The percentage of cutaneous fistulas that were discharged from the TGDC at presentation ranged between 10 and 25, and this condition is twice as common in children as it is in adults.³ An aberrant tract between two epithelial surfaces is referred to as a fistula.

Our case is special because the patient had a cutaneous abnormality brought on by a skin ulceration brought on by the pressure of an expanding huge cyst. On CT scans, the cyst capsule could be seen to be whole, and during the operation, there was no visible capsular breach. TGDC typically range in size from 2 to 4 cm upon presentation but may quickly expand following an upper respiratory tract infection⁶ There have been 7 examples of large thyroglossal duct cysts documented in the literature, with sizes ranging from 9 to 30 cm at their largest. It's interesting to note that all of these individuals appeared at a later age than average, giving the mass time to slowly expand as expected before eventually manifesting as a large cyst. Most of the individuals with large thyroglossal duct cysts waited to seek medical care until the tumour was interfering with their everyday activities.⁷ Airway obstruction and dysphagia are just two examples of TGDC complications that may be connected to the mass effect. Infection, inflammation, and recurrence are further risks. Due to superimposed infection and inflammation, TGDC can have spontaneous extrusion of contents leading to sinus formation. There is little information on the prevalence of intra-cystic haemorrhage or its causes, despite the fact that haemorrhage and hematoma formation played a key role in the fast expansion of our patient's TGDC.

In our situation, a TGDC with cutaneous extrusion presented in a unique way. Skin ulcerations are frequently linked to underlying malignancy, but our example shows that benign conditions can also manifest aggressively. We hypothesise that a number of factors, such as the haemorrhagic cyst's huge size stretching the patient's thin and ageing skin, may have contributed to the cutaneous extrusion. The vascular supply to

the skin may be compromised as a result, leading to skin ulcers. We are unable to determine the cause of the hemorrhagic cyst because the patient had no history of trauma, was not taking blood thinners, and a pathological examination determined that the cyst was benign.

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