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## Research Article

### THYROGLOSSAL DUCT CYST- A RARE SITE PRESENTATION DIAGNOSED ON FNAC

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#### ABSTRACT

Midline neck developmental anomalies are due to persistence and cystic dilation of thyroglossal duct. Thyroglossal duct (TGD) is the embryonic tract characterized by the presence of epithelial lined remnants and heterotopic thyroid tissue. Though it is more frequently encountered in children, prevalence in adult population is 7%. It manifests as anterior midline neck mass between hyoid bone and mandible. Reported incidence of malignancy in TDC is less than 1%<sup>1</sup>. Appears in midline neck anywhere along path of TGD, from foramen cecum in tongue base to suprasternal region. However, suprasternal region is rare site. We are presenting this case for its rare location.

#### Key Words:

Thyroglossal cyst, Suprasternal

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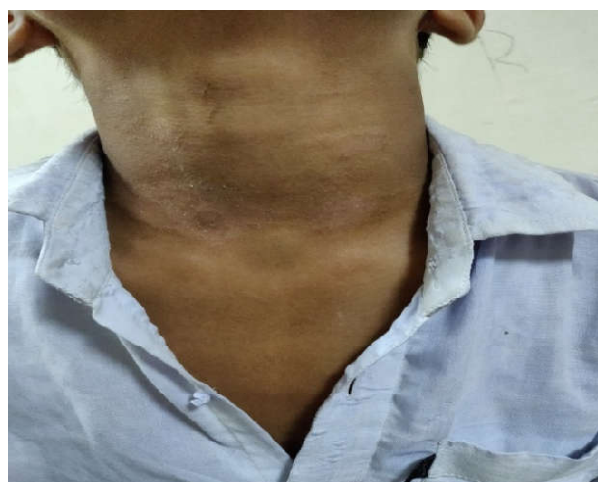
#### INTRODUCTION

Thyroglossal duct cyst (TDC) is the most common congenital midline neck mass which may present at any age. The exact incidence of TDC is unclear, but its incidence appears to be equal in both genders and is higher in children than adults<sup>2</sup>. Classically, TDCs present as a mobile, painless midline cystic neck swelling that moves with deglutition and protrusion of the tongue. While it typically presents at midline close to the hyoid bone, 10% - 24% of the cysts are located laterally, usually on the left<sup>3</sup>. TDCs can present with signs and symptoms of infection or with a discharging cyst. A rapid increase in duct growth should raise suspicion of malignancy which there is an estimated 1% chance of malignant transformation in TDCs<sup>4</sup>.

#### CASE REPORT

A 12 year male came to ENT OPD for a visible palpable swelling over suprasternal area. Swelling was painless and firm (Fig1). On ultrasonography (USG) it was a 17x7mm structure seen in mid line neck, anterior to trachea in suprasternal region (Fig.2). No internal communication could be localized. So swelling was suspected as thyroglossal cyst on USG. Fine needle aspiration cytology (FNAC) of the swelling was performed. Upon examination of swelling it was 1.5x0.8 cm painless swelling. On aspiration around 1.5 ml of muddy fluid

was aspirated. Upon Microscopy numerous squamous, sparse ciliated epithelial cells and foamy macrophages were observed (Fig 3, 4). Subsequent smearing of the FNAC smears was done and a diagnosis of Thyroglossal cyst was made.



**Fig 1** Showing a visible swelling over suprasternal area.

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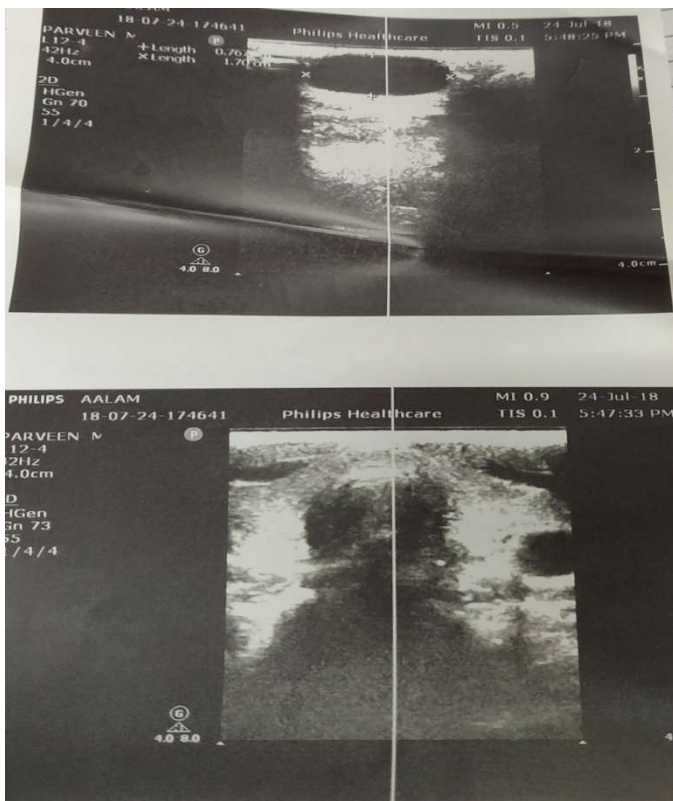


Fig 2 USG image diagnosed as ?thyroglossal cyst

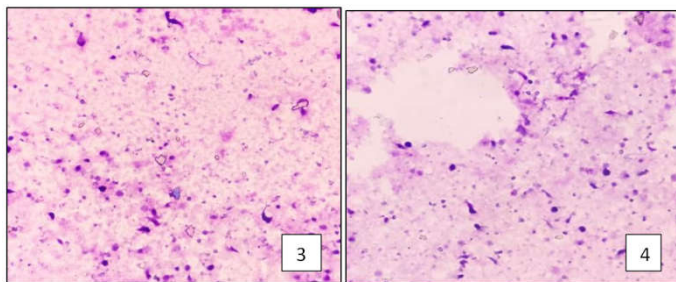


Fig3&4 Microphotograph showing squamous epithelial cells with macrophages.

## DISCUSSION

The term ‘thyroglossal duct cyst’ is a common term used in many literature to describe a mass arising from remnant of thyroglossal tract, which does not undergo complete involution, during the embryological development of the thyroid gland. TDC is the most common nonodontogenic cyst, with the prevalence being 7% of the adult population<sup>1</sup>. Many other different terms have been used in the literature with regards to this pathology such as ‘thyroglossal cyst’, ‘thyroglossal tract cyst’, ‘thyroglossal duct remnant’ and ‘thyroglossal tract remnant’<sup>5</sup>. A wide range of differential diagnosis can be made for neck masses viz. dermoid cyst filled with sebaceous material, lined by keratinizing epithelium, and having skin appendages in the wall, none of these is observed in TGD, Epidermoid cyst similar to dermoid cyst, but without skin adnexa, Branchial cleft cyst which is lateral in location, having lymphoid follicles in the wall; aspirate is more cellular with abundant squamous epithelium.

Among them, TDC is the most common cause of congenital anterior midline cyst in the neck<sup>6,7</sup>. Although TDCs can present at any age, most literature reported that the peak incidence is in the 1-10 year age group. However, more recent literature show its more prevalence in adult population than previously believed<sup>8</sup>. TDC commonly presents with mobile midline anterior neck mass which moves with deglutition and protrusion of the tongue, usually in proximity to the hyoid bone. The typical movement of the cystic lesion in the neck with deglutition and protrusion of tongue is often cited as a reliable diagnostic sign. FNAC is a simple and reliable test which is useful in making diagnosis of neck masses in the distinction of benign from malignant lesion<sup>7</sup>. Serum thyroid function test may be performed to confirm euthyroid status of patients preoperatively, in supplementary to radiological thyroid gland assessment. Though thyroglossal cyst is relatively common but in our case it is located at suprasternal area which makes it uncommon finding.

## CONCLUSION

FNAC findings in TDC are variable, but when correlated with clinico-radiological findings, accurate diagnosis can be made in most cases. But imaging techniques or FNAC alone may not be adequate for pre-treatment assessment in all cases of TDC. Apart from imaging studies, all TDC patients must be subjected to image-guided FNAC for early and definitive diagnosis of carcinoma.

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