Variation In Presentation : Thyroglossal Duct Cyst In Adult

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Abstract- *Thyroglossal duct cysts are most common midline congenital swelling in head neck region. It results from incomplete involution of thyroglossal duct. They are present as midline painless swelling in neck & they move on protrusion of the tongue and during deglutition. We have studied a case of thyroglossal duct cyst that was unusal in that cyst was located far from midline, didnot move on protrusion of tongue and associated with difficulty in swallowing that mimicked a colloid goitre.*

I. INTRODUCTION

Thyroglossal tract arises from the site of tuberculum impar and descends in the neck to form the thyroid gland at its terminal part. Any part of the tract may persist and this results in thyroglossal duct cyst (1). Thyroglossal duct cyst typically occurs before 20 years of age and a substantial minority of patients over 20 at the time of diagnosis (2). Mean age is 5 years (4months-70 years). Occurence in the elderly is rare and only 28% occur over 50 years and 10% over 60 years (3)(4).

Most patients present with a symptomless lump in the neck, which rises on swallowing and protrusion of tongue usually, 1-4cm in diameter in the midline below the hyoid bone.Infected neck mass is common presentation in adults(5). Differential diagnosis includes lipoma, sebaceous cyst, cavernous hemangioma, lymph nodes, dermoid cyst, branchial cyst, pyramidal lobe hyperplasia, teratoma,hamartoma, etc;(6) Thyroglossal cyst, if not considered as a differential diagnosis in cystic swelling may result in incomplete excision and recurrence(7).

Ultrasound of neck is the most common preoperative diagnostic procedure along with thyroid nodule(8).

Radionuclide scanning is justified in cases of lingual thyroid and where a normally located thyroid gland cannot be detected(9).

Treatment is Sistrunk's operation described in 1920. This includes excision of the tract running from the cyst to the foramen caecum along with the central part of body of hyoid with which tract is intimately related. Surgery using the technique based on anatomy of hyoid bone region is essential. Indications for surgery include cosmesis; malignant degeneration; recurrent infection;rarely intermittent upper airway obstruction(1)(7)(10)(11)(12).

II. CASE REPORT

A 30 –year-old woman was referred to our OPD with a 1 year history of swelling on the right side of neck. The size of the swelling had markedly increased over previous months & patient began to increase difficulty in swallowing but she didnot complain about pain associated with this swelling. No features of hypothyroidism, hyperthyroidism or compression.

On clinical examination, 6 *4 cm cystic swelling was centered in front of neck on right side of the midline. The swelling extended superiorly upto inferior border of the hyoid bone, inferiorly upto the middle of the thyroid cartilage, and laterally upto the anterior border of sternocleidomastoid muscle. It was mobile during deglutition but didnot move on protrusion of tongue. No cervical lymphadenopathy was seen. There was no discharge from the swelling. On laryngoscopy, epiglottis was pushed to opposite side and there was distortion of the laryngeal inlet. Following clinical examination, our differential diagnosis were colloid goitre, branchial cyst nad thyroglossal duct cyst.

All routine laboratory investigations including thyroid profile were normal. Ultrasonography revealed an unilocular well defined cystic mass and a normal appearing thyroid gland. Fine Needle Aspiration Cytology was inconclusive. Computed Tomography of the neck showed cystic structure below the strap muscles (figure1). Radionuclide scan was not performed in view of normal thyroid gland on ultrasound of neck.

After preoperative counselling, the patient was taken for surgery under general anaesthesia. Sistrunk's operation was performed. An incision was made along a skin crease, and flaps were elevated on both sides . The large cyst was separate from the thyroid gland, but it adhered to the thyroid cartilage.The thyroglossal duct extended from the cyst to the hyoid bone. The cyst and the duct were excised along with the body of the hyoid bone (Figure2). The cyst measured 6.5 * 3.5cm. a suction drain was inserted, and the wound was closed. The patient's postoperative recovery was uneventful.
Histopathology revealed cyst lined partially by pseudo-stratified ciliated epithelium and squamous epithelium. Subjacent stroma showed few thyroid follicles. Stroma shows fibrosis wiyh predominant lymphocytic infiltration and a final diagnosis of thyroglossal cyst was made. There was no evidence of malignancy noted on histopathology (Figure4).
Patient was followed up in the postoperative period for 6months. There was no complications like fistula or recurrence noted.

III. DISCUSSION

The thyroid gland starts to develop during the 3rd week of intrauterine life as a median outgrowth from the floor of the primitive pharynx.The normal migration of the primitive thyroid from the foramen caecum to its mature position in the anterior neck results in the creation of the thyroglossal duct. The lumen of the duct is usually obliterated by 9th or 10th week of gestation. However, endothelial elements of the ductal lining may produce mucus, resulting in the development of a cyst. Approximately 7% of the population have thyroglossal duct remnants. Thyroglossal Duct cyst can be found anywhere in midline from submental region to suprasternal notch(5).

Location of thyroglossal duct cyst are classified into 4 subdivision (1) Intralingual (2) Suprahyoid or Submental (3) Thyrohyoid and (4) Suprasternal.

Thyroglossal duct cysts are epithelium lined cysts that can arise at any point along the duct's course, from the foramen caecum to the base of the tongue to the lower midline of neck.

It usually present as painless cystic mobile fluctunt swelling in close proximioty to hyoid bone(2)(10)(11) which moves with deglutition and protrusion of tongue. In adults one fourth of the patients presented with draining sinus that result from spontaneous drainage or surgical drainage of abscess(5).
According to O'Hanlon et al, most of the cysts that are not located in the midline are either too large to occupy a particular midline location or they represent a postoperative recurrence. The former explanation supports the unusual location in our patient, as her cyst was quite large.

For diagnosis of Thyroglossal duct cyst, ultrasonogram of neck is noninvasive and appropriate imaging modality. Preoperative fine needle aspiration cytology is also an expensive and safe method(5)(10). But USG maynot depict the deep extent of hyoid nad infrahyoid thyroglossal duct cyst nad it cannot reliably assess region of base of tongue in suprahyoid thyroglossal duct cyst. For depicting relationship of cyst with hyoid CT scan is better. MRI is preferred for lesion at near the tongue base(12).

Management: Thyroglossal duct cysts are usually removed because they are cosmetically undesirable or because they are associated with a previous infection.The treatment of choice for removing thyroglossal duct cysts is Sistrunk's operation. According to Hawkins et al, Sistrunk's procedure is associated with recurrence rates of only 2 to 8% ; when the hyoid bone is not removed; recurrence rate increased upto 85%.

In conclusion, this case illustrates that a lateral presentation of a swelling and restricted movement during tongue protrusion cannot exclude a diagnosis of thyroglossal duct cyst. Thyroglossal duct cyst should be properly investigated and diagnosed and shoulde be excised preferably by Sistrunk's procedure.

IV. DECLARATIONS

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Conflict of interest: None
Ethical approval: Not required

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Figure1. Preoperative thyroglossal duct cystic swelling

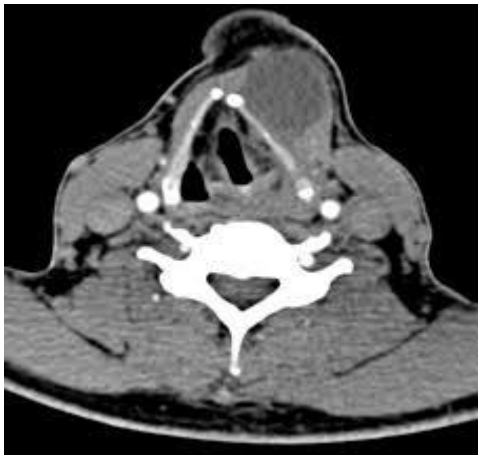

Figure2. CT scan

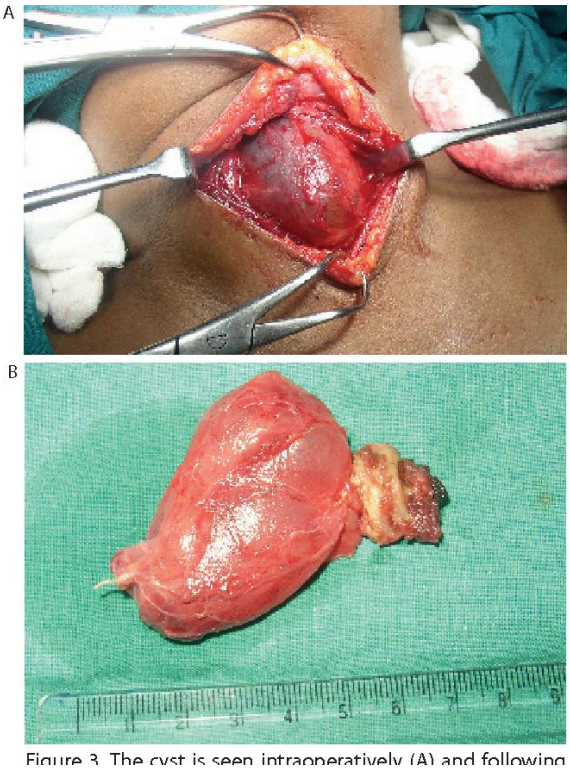

Figure3. Intraoperative pictures

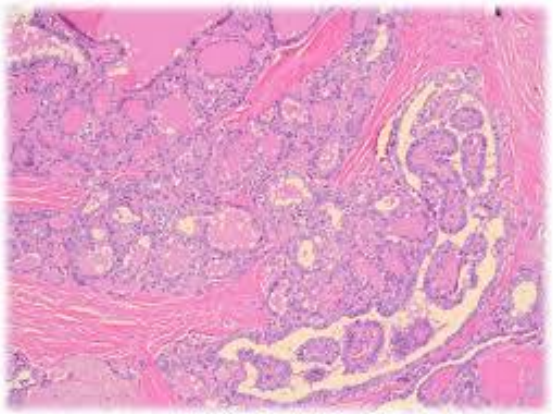

Figure 4.Histopathology