Thyroglossal Duct Cyst, Variation in Presentation, Our Experience

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Abstract Thyroglossal duct cysts are most common midline congenital swelling in head and neck region. It results from incomplete involution of thyroglossal duct. They present as midline painless swelling in neck. We have studied variation in their presentation. The retrospective study carried out in department of ENT in Gandhi Medical College Bhopal from Jan 2009 to Sept 2013. Objective of this study is, to study incidence of Thyroglossal Duct Cyst in different age and sex group and variation in presentation. Clinical records, medical records and histopathological records were studied. 10 patients diagnosed as Thyroglossal Duct Cyst included in study. 10 patients were found to be diagnosed as Thyroglossal Duct Cyst. Out of 10 pt. 6 were pediatric patients and 4 were adults. 8 patients presented with cyst while 2 presented with fistula. Out of 10 patients 3 presented with suprahyoid, 2 at the level of hyoid and 5 had infrahyoid presentation. 7 patients undergone sistrunk operation procedure while 3 undergone simple excision. Out of 3 patients who undergone simple excision 1 patient develop recurrence. Thyroglossal Duct Cyst are one of the most common asymptomatic midline neck swelling and should be differentiated with other swellings with proper investigations.

Keywords Thyroglossal duct cysts ·
Thyroglossal fistula · Variation in presentation ·
Midlineneck swelling

Introduction

Thyroglossal Duct Cyst are most common neck masses of embryological origin found in midline neck region. This

condition occur due to failure of obliteration of Thyroglossal Duct which form a bridge between base of tongue and thyroid gland [1–3]. This developmental abnormality occur in about 7 % population [1, 2, 4–6]. Although thyroglossal duct cysts are one of the most common pediatric midline neck lesions. They have known to be present in adults as well with varying frequency [1, 4]. Thyroglossal Duct Cyst often presents as painless, cystic, mobile, midline swelling of neck. Thyroglossal Duct Cyst are associated with increased incidence of ectopic thyroid tissue. About 1 % patients with Thyroglossal Duct Cyst have an associated malignancy most common being papillary thyroid carcinoma [1, 2, 7–9]. Thyroglossal Duct Cyst commonly presents between hyoid and thyroid gland but there is variation in their level of presentation. About 20–25 % present at the level of suprahyoid, 15–20 % present at the level of hyoid and 25–65 % present at infrahyoid level. We are presently sharing our experience in presentation of Thyroglossal Duct Cyst.

Method

This retrospective study was done in department of ENT, Gandhi medical college, Bhopal from July 2009 to September 2013. Aims and objectives of this study were to study the incidence of Thyroglossal Duct Cyst in different age group to study sex predilection of Thyroglossal Duct Cyst and variation in presentation of Thyroglossal Duct Cyst. Medical records, operative notes, USG and histopathological records of patients diagnosed as thyroglossal duct cyst or fistula on the basis of clinical records, USG and FNAC were included in study. All other neck swelling which were not confirmed as Thyroglossal Duct Cyst or Thyroglossal Duct fistula excluded from study. Total 10

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Table 1 Incidence of thyroglossal duct cyst in our study

Population	% of patients
Pediatrics	60
Adults	40

Table 2 Clinical presentation of thyroglossal duct cyst in our study

Level	% of patients
Suprahyoid	30
At level of hyoid	20
Infrahyoid	50

patients were found to be diagnosed as Thyroglossal Duct Cyst. All patients diagnosed as Thyroglossal Duct Cyst and Thyroglossal Duct fistula undergone excision. Out of 10 patients, 7 patients underwent sistrunk operation and 3 underwent simple excision.

Observation/Results

Out of 10 patients 8 were diagnosed as Thyroglossal Duct Cyst while 2 patients were diagnosed as Thyroglossal Duct fistula. Out of 10 patients 6 were pediatric patient and 4 were adults (Table 1). Out of 10 patients 3 presented (30 %) with suprahyoid swelling, 2 at the level of hyoid (20 %) and 5 with infrahyoid (50 %) swelling (Table 2). Out of 10 patients 6 were males and 4 patients were females. 8 patients presented with midline cyst while 2 presented as fistula. Out of 10 patients, 7 underwent sistrunk procedure while 3 underwent simple excision of cyst. Out of 7 patients who underwent sistrunk operation, none had recurrences while out of 3 patients who underwent simple excision 1 patient had recurrence as fistula.

Discussion

Thyroglossal duct cyst is the most common congenital midline neck swelling. It results from failure of obliteration of thyroglossal duct which form a bridge between base of tongue and thyroid gland [2]. Approximately 7 % of the population have been reported to have Thyroglossal Duct Cyst and remnant [1, 2, 4, 5, 10]. 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) Intra lingual (2) Suprahyoid or Submental (3) Thyrohyoid and (4) Suprasternal Thyroglossal Duct Cyst should be differentiated from lymphadenopathy,

dermoid cyst, cystic hygroma, ectopic thyroid, branchial cyst, hemangioma, lipoma and sebaceous cyst [4, 10].

Thyroglossal Duct Cyst usually present as painless cystic mobile fluctuant swelling in close proximity to hyoid bone [2, 10, 11] which moves with deglutition and protrusion of tongue. In adults one fourth of patients presented with draining sinus that result from spontaneous drainage or surgical drainage of abscess [5].

In our study 6 patients were of pediatric age group and 4 were adults (Table 1), 3 patients presented with suprahyoid, 2 at the level of hyoid and 5 patients presented as infrahyoid midline swelling (Table 2), 8 patients presented with midline neck swelling while 2 with midline neck fistula.

For diagnosis of Thyroglossal Duct Cyst ultrasonogram of neck is noninvasive and appropriate imaging modality. Preoperative fine needle aspiration cytology is also an inexpensive and safe method [5, 10]. But USG may not depict the deep extent of hyoid and infrahyoid Thyroglossal Duct Cyst and it can not 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].

In our study all patients underwent sonogram of neck and out of 10 patients, FNAC was done in 8 patients. As 2 patients presented with fistula so FNAC was not done. CT SCAN and MRI was not done in any of our patient due to cost factor.

Treatment of choice for Thyroglossal Duct Cyst is sistrunk procedure in which a portion of hyoid bone is removed with meticulous excision of persistent duct up to foramen caecum to reduce recurrence [2].

In our study out of 10 patients, 7 underwent sistrunk operation while 3 underwent simple excision. None of the patients who underwent sistrunk procedure had recurrence. 1 patients out of 3 patients, who underwent simple excision had recurrence.

Thyroglossal Duct Cyst may be associated with malignancy. About 1 % of the patients suffering from Thyroglossal Duct Cyst are noted to be associated with malignancy, most common being papillary carcinoma [2, 10]. So following operative procedure if histopathology report reveal a malignancy, the thyroid gland must be studied radiologically and scintigraphically (5). Total thyroidectomy is required in selected cases.

In none of our patients histopathology examination reveal carcinoma.

Conclusion

Thyroglossal Duct Cyst results from failure of involution of thyroglossal duct and present as midline cyst as fistula in neck which should be properly investigated and diagnosed and should be excised preferably by sistrunk procedure.

Malignancy may occur in Thyroglossal Duct Cyst so it should be ruled out with appropriate investigation. Our study is small to reach any conclusion but whenever you come across a midline neck swelling, Thyroglossal Duct Cyst should be ruled out.

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