Journal of Saidu Medical College 2011; 1(2)

CLINICAL PRESENTATION AND SURGICAL TREATMENT OF THYROGLOSSAL DUCT ANOMALIES (TGDAS).

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ABSTRACT

Objectives: To study the profiles of patients presenting with Thyroglossal duct anomalies and the outcome of their surgical treatment.

Study Design: Descriptive.

Setting and duration of the study: Saidu Teaching Hospital Saidu Sharif Swat, from November 2005 to November 2006.

Patients and methods: All patients were admitted through Out- patient department. They were analyzed on the basis of location, age, sex, clinical presentation, operative findings, surgical procedure performed and duration of follow up. All the operations were done by the fellows of Oto-rhino-laryngology.

Diagnosis was based on clinical examination in all cases. Ultrasound was carried out in all the patients to localize thyroid gland.Thyroid isotope scan and fistulogram are necessary preoperatively to find out functioning ectopic thyroid tissues and to see the extant of the tract. These investigations were not carried out due to poor socioeconomic condition of the patients. Histopathological study was done in all the cases

Results: A total of fifteen patients with clinically suspected thyroglossal duct anomalies were admitted from November 2005 to Nov 2006. Out of the fifteen patients, one was female while the 14 cases were male.

Age of the patients ranged from 2-16 years. Ten patients were below 8 years of age while 05 patients were above 8 years. Majority (53.5%) presented with neck swelling followed by discharging fistula (33.3%). All patients presented with midline swelling except one on the left side. Majority of swellings, i.e. 66% were present in the infra-hyoid region, while 26% presented at the pre-hyoid area. Per-operative findings includes 07 cases with tract up to the hyoid, 3 up to the tongue base, 3 tract attached to the hyoid bone, one up to thyro-hyoid membrane, while in one case no tract was found.

Conclusion; It is concluded from our study that most of the patients were below 8 years of age; male children were predominantly affected and majority of them presented with cystic swelling on one side of neck.In 10 patients, the anomalies were situated in the infrahyoid region.No recurrence occurred via performing standard Sistrunck procedure at one year follow up.

Key words; Key words: Thryoglossal duct anomalies, Sistrunk operation

INTRODUCTION

Thyroglossal duct anomalies are the most commonly seen midline neck mass in children. Emryologically, the thyroid gland develops during the third week of gestation as an invagination of the endodermal cells on the pharyngeal floor at the eventual site of the foramen cecum. The thyroid analage then migrates caudally as an epithelium lined tube known as thyroglossal duct (TGD). In its decent, TGD become intimately related to the central portion of the Hyoid bone. By the seventh week, the thyroid gland reaches its final pretracheal position, and TGD atrophies. Persistence of TGD results in TGD anomalies (TGDAS, including cyst, sinuses and fistulae)[1].

The tract runs behind, through or in front of the hyoid bone and ends deeply in the foramen caecum of the tongue. A cyst may form anywhere on its course.

A fistula is usually caused by attempted drainage of a misdiagnosed abscess or to an inadequate excision leaving the hyoid bone intact.[2,3] Misdiagnosis is the most common cause of inadequate and inappropriate surgery, leading to recurrence of the lesion.[4]

The treatment of choice for these anomalies is Sistrunk operation, which means excision i.e removal. It may require the division of the Sternohyoid and thyrohyoid muscles and should include body of the hyoid bone between lesser horn. After the duct has been dissected to this area, above the hyoid, Sistrunk recommended the removal of core of the tissue including the raphe joining the myelohyoid muscle, portion of each genioglosses muscle and the foramen cecum, with formal attempt to identify a tract at this level. The dissection must be angled upwards and backwards at the angle of 45. in fistula or revision operation the mouth of the fistula is excised in an elipse.[3] If thyroglossal duct cyst recur despite an adequate Sistrunk operation, an intralingual remnant should be suspected. Transoral excision of the tongue tissues around the foramen cecum may offer a cure [5]. Wide local excision is a valuable extension of the Sistrunk operation for the management of recurrence disease[6].

The purpose of our study was to describe the clinical presentation of thyroglossal duct anomalies, per-operative findings and the likely outcome of the Sistrunk operation.

PATIENTS AND METHODS

This is a descriptive study which was carried out in the Department of Oto- rhino-Laryngology and Head and Neck Surgery, Saidu Teaching Hospital Saidu Sharif, Swat. The study period was from November 2005 to November 2006.

All patients were admitted through Out Patient department.They were analyzed on the basis of locations, age, sex, clinical presentation, operative findings, surgical procedure performed and duration of follow up. All the operations were done by the fellows of Oto-rhino-laryngology.

One patient was excluded from the study. This interesting patient was having all symptoms and signs suggestive of thyroglossal duct anomalies but turned out to be a foreign body (bullet) at the level of thyrohyoid membrane, per-operatively

Diagnosis was based on clinical examination in all cases. Ultrasound was carried out in all the patients to localize thyroid gland. Thyroid isotope scan and fistulogram are necessary preoperatively to find out functioning ectopic thyroid tissues and to see the extant of the tract. However, these investigations were not carried out due to poor socioeconomic condition of our patients. Histopathological study was done in all the cases.

RESULTS

A total of 15 patients with clinically suspected thyroglossal anomalies were admitted from November 2005 to November 2006.

Age of the patients ranged from 2-16 years.10 patients were below 8 years of age while 05 patients were above 8 years.

Out of 15 patients, 01 was female while the rest of them were male.

The various parameters are shown in table's I-IV

Table -I

Clinical presentation of the cyst/fistula

Clinical presentation	No of patients	Percentage %
Neck swelling (cyst)	08	53.3
Discharging fistula following excision/Incision &Drainage scars	05	33.3
Neck swelling with spontaneous discharge without scars	01	6.6
Discharging fistula without swelling	01	6.6

Table-II

Horizontal Location of the cyst/fistula.

Location	No of patient	Percentage %
Midline of neck	14	93.3
Left side neck	01	6.6
Right side neck	0	0

Table-III

Vertical Location of cyst/fistula

Location	No of patients	Percentage %
Infrahyoid	10	66.6
Prehyoid	04	26.6
Suprahyoid	01	6.6

Table-IV Per operative findings.

Findings	No of patients	Percentage
Tract up to the hyoid	07	46.66
Tract up to the tongue base	03	20
Cyst attached to the hyoid bone	03	20
Tract upto thyrohyoid membrane	01	6.6
No tract found	01	6.6

All the patients were followed for 01 year, none of them developed recurrence till the end of the study (November 2007).

DISCUSSION

Thyroglossal duct anomalies are one of the most common pediatric midline neck lesions.[3] In this study we found that 10 patients (66.6%) were below 08 years of age, the lowest age of TGDAs was 04 years, while 05 patients were having age above 08years but less than 16 years. Our study is comparable with the study carried out by Ostlie DJ,[7] in which the age range was from 06 months to 16 years. In our study male were predominant i.e. 14 (93.3%) and 01(6.6%) were female, which is similar to the study carried out in other part of the world. [2,5]In an study of 55 cases 29 were men and 26 were women, with a median age 17 years.[8]

In this study 08 (53.3%) patients presented with cyst only. 03 patients (33.3%) presented with discharging sinus/fistula after excision/incision & drainage and having surgical scars. One patient (6.6%) had swelling but with a spontaneous discharge. One patient (6.6%) had only discharging fistula but no swelling. In studies of 32 and 33 patients in our country and in others part of the world approximately the same results have been documented [2,9,10.11]

Most of the patients (93.3%) in this study were having anomalies in the midline, while one patient (6.6%) was having swelling on the left side; no anomalies were found on the right side .[2-11-12]

In this study most of the anomalies were present in the infrahyoid region 10 patients (66.6%), 04 patients (26.6%) were at the prehyoid level and 0.1 patients (6.6%) was situated at the supra hyoid level. The same have been observed in other parts of the world. [3,11,13]

Per-operatively we found that tract was up to the hyoid in seven patients, three patients having tract up to the base of the tongue, three patients were having tract attached to the hyoid bone, in one patient the tract was up to thyrohyoid membrane and one patient was having no tract[2].

In this study none of our patients had recurrence till the end of our study. The recurrence rate after Sis trunk operation was 3.5% and 5% [5] in other parts of the world.[14] Four individual risk factors have been identified: Number of infection before surgery (more than 02 episodes); preliminary surgical procedure; age less than 02 years and multicystic lesions.[15]

Histopathological study was carried out in all the cases. In 14 [7] patients the diagnoses were thyroglossal duct, while 01 patient had dermoid cyst [2].Other workers also carried out histopathological studies of the tissues, as there is a wide range of differential diagnoses including associated differentiated thyroid tumours.[16-17] Thyroglossal duct carcinoma is uncommon, occurring in approximately 1% of all thyroglossal duct cyst. It is often diagnosed incidentally after surgical excision.

CONCLUSION AND RECOMMENDATIONS

It is concluded from our study that most of the patients with TGDAs present in younger age and male children are predominantly affected. Majority of them presents with cystic swellings in the midline. In 10 patients the anomalies were situated in the infrahyoid region. No recurrence reported via performing standard Sistrunk procedure at one year follow-up.

Furthermore studies with larger sample size and longer duration of follow up are required.

ACKNOLEDGEMENT

We would like to thanks all the staff members of

Department of Otorhinolaryngology and Head & Neck Surgery and Imran khan Final year student Saidu Medical College, for their valuable help.

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