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PAPILLARY CARCINOMA IN A THYROGLOSSAL DUCT CYST: CASE REPORT

General Surgery

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ABSTRACT

A remnant of Thyroglossal duct, usually a cyst, is the most common congenital abnormality of the thyroid gland development. Malignant neoplasm in Thyroglossal duct cyst (TGDC) is a very rare tumor (<1% of all thyroid malignancies). We present a case of 34 year old female patient with papillary carcinoma of TGDC who was managed with Sistrunk procedure.

KEYWORDS

Papillary Carcinoma, Thyroid, Thyroglossal Duct Cyst

INTRODUCTION

Thyroid gland develops in between the first and second pharyngeal pouches, primarily appearing as invagination in the floor of the pharynx and then migrating caudally to trachea. During embryonic development, it remains attached to tongue by Thyroglossal duct, which usually undergoes atrophy after birth. If it fails to involute, it can persist as cyst, duct or ectopic tissue. [1] Clinically most TGDC are benign and present as slow growing, asymptomatic neck masses. [2] Mean age at presentation of malignant neoplasm in TGDC is 39 years. [3] More common in females with a ratio of 2.3:1. [3]

Most common malignancy in TGDC is papillary (80 to 95%) followed by mixed papillary-follicular (8%) and SCC (6%). [4] Earlier management included Sistrunk procedure along with total thyroidectomy, I^{131} ablation and thyroid suppression therapy. Currently, only Sistrunk procedure is done; and routine thyroidectomy with lifelong thyroid hormone supplementation is not recommended. [5] Prognosis of papillary carcinoma arising in TGDC is very good. Overall survival rate is 95.5% at 10 years.[6]

CASE REPORT

A 34 year old female patient presented to the hospital with complaints of swelling in front of neck since 2 months. Swelling had an insidious onset, was gradually progressive to attain the final size of about 4x2cm. Patient had not been previously exposed to radiation/other known carcinogens. Family history of thyroid or any neoplastic disease was negative. All other investigations were normal.

Physical examination revealed a soft, non-tender, well demarcated midline 4x5cm neck swelling with smooth surface. Swelling was situated between hyoid bone and thyroid cartilage with unchanged skin over it. Swelling moved with deglutition and with protrusion of tongue. Thyroid gland was apparently normal in size and consistency and no associated swellings noted in the neck. Indirect laryngoscopy revealed larynx to be of normal mobility with no vocal cord palsy.

Ultrasonography of the neck revealed Calcified Thyroglossal cyst.Patient was treated surgically with Sistrunk procedure, and cyst excised along with hyoid bone up to base of tongue. There were no complications in the postop period.

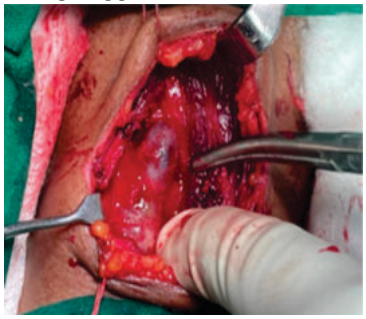

Figure 1: Intraoperative view of the Thyroglossal duct cyst.

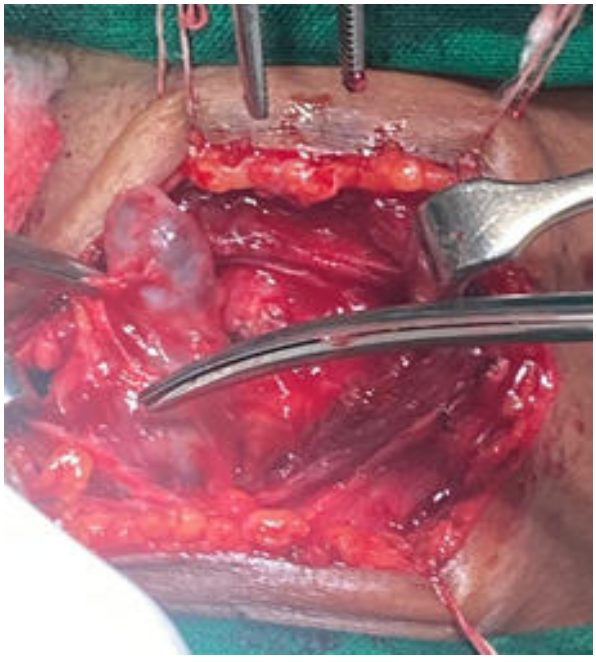

Figure 2: Thyroglossal duct cyst dissected off from the base of tongue.

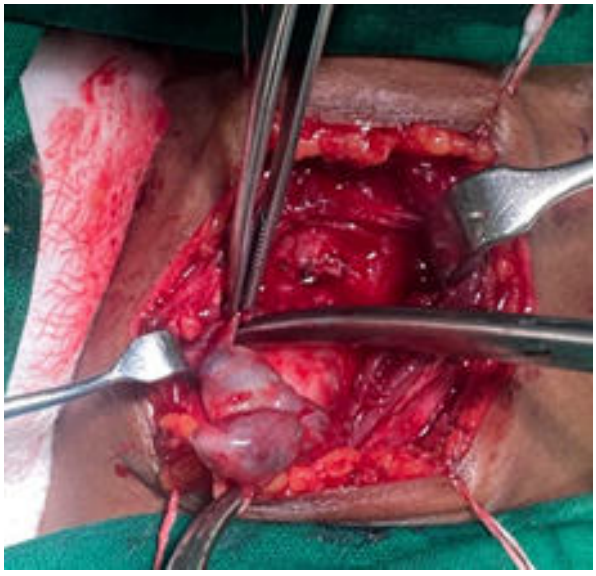

Figure 3: Thyroglossal duct cyst excised in-toto with hyoid bone.

Histopathological examination revealed psammoma bodies with focal infiltration of fibrous wall with tumor cells. Histopathological diagnosis was papillary carcinoma in Thyroglossal duct cyst.

Patient was counselled regarding the importance and need for follow up visits. At 1 and 6 months after the surgery, patient is asymptomatic, and has no recurrence.

DISCUSSION

Thyroglossal cyst is a swelling occurring in the neck in any part along the line of Thyroglossal tract. It is due to the failure of Thyroglossal duct/tract to obliterate completely. Persistent duct at certain part forms cystic swelling containing mucus fluid. It is usually congenital, wherein there is degeneration of part of tract causing cystic swelling. Normal thyroid may be present in normal location or be absent in the normal location and exist only in the wall of Thyroglossal cyst. [1]

It is a tubulodermoid type of cyst lined by ciliated columnar epithelium.

Presents as a painless midline neck swelling which moves with deglutition and protrusion of tongue.

Thyroglossal cyst can get infected and form an abscess.

Malignancy can develop in TGDC (papillary carcinoma-1%). In such cases, cyst will be harder, fixed with palpable neck nodes. Incidence is more in females in 4th decade of life.

Younger patients with normal thyroid and small size of TGDC can be managed with Sistrunk procedure alone. Total thyroidectomy is indicated when the rest of the thyroid gland is nodular or when the size >1cm or age of patient is >45 years. [5] Patients undergoing only Sistrunk procedure must be counselled about possibility of local or systemic recurrence and the need for regular follow up. [5]

CONCLUSION

The incidence of malignancy in a Thyroglossal duct cyst is very rare, requires only Sistrunk procedure as the prognosis of papillary carcinoma arising in TGDC is very good in younger patients with normal thyroid gland.

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