International Journal of Research in Medical Sciences
Lakshmi VP et al. Int J Res Med Sci. 2019 Aug;7(8):3189-3191
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20193417

Case Report

Intra thyroid thyroglossal cyst: a rare presentation

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Received: 04 June 2019
Revised: 17 June 2019
Accepted: 03 July 2019

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ABSTRACT

Thyroglossal duct cyst is a congenital malformation occurring due to incomplete closure of the thyroglossal duct. The infrequency with which it is encountered in thyroid makes it a formidable diagnostic challenge. Authors report this case because of the rarity of intrathyroid location of thyroglossal cyst.

Keywords: Brachial cleft cyst, Congenital neck mass, Lymphoepithelial cyst, Malignancy in TDC, Thyroglossal duct cyst, Thyroid

INTRODUCTION

Thyroglossal duct cyst (TDC) is the most common type of developmental cyst seen in the neck region. It results from the failure of obliteration of the thyroglossal duct. This developmental abnormality is seen in about 7% of the population.[1] Chances for malignany is around 1% in these patients.

Thyroglossal duct cysts are classified into four subdivisions depending on the location which were intralingual, suprahyoid and/or submental, thyrohyoid, and suprasternal. Most thyroglossal duct cysts are asymptomatic. The lingual subtype can produce laryngeal stridor, respiratory obstruction, and dysphagia. Intrathyroid occurrence of thyroglossal duct cyst is very rare. Authors report a case of incidentally detected intrathyroid thyroglossal cyst.

CASE REPORT

About 55 year old gentle man presented with swelling anterior aspect of neck on the right side of 2 months duration. There was no history of fever, stridor or weight loss. He was a known psychiatric and hypothyroid patient and was on treatment for the same for 10 years. Local examination revealed anterior neck swelling more towards right side with a firm irregular nodule measuring 4x3cm which moved with deglutition. Left side appeared diffusely enlarged. His vitals were stable and biochemical tests including TFT was within normal range. Colour Doppler study demonstrated thyroid with right lobe showing a cyst measuring 2.7×2.6 cms.

Wall of the cyst appeared thick and irregular (Figure 1). A hyperechoic nodule was also seen measuring 1.2×1 cms. Left lobe was very minimally enlarged with a nodule measuring 1.2×1 cms. Fine needle aspiration cytology was done from the nodule in right lobe and showed scattered follicular epithelial cells and colloid in a haemorrhagic background. It was suggested to be nodular colloid goiter, Bethesda category II. From the above findings a possibility of colloid goitre with cystic degeneration was considered and total thyroidectomy was done.

The specimen was sent for histopathological evaluation. The specimen was received as 2 lobes, right lobe was nodularly enlarged cut section of which showed a thick walled cyst measuring 2×2×1.4 cm containing clear fluid

and focal grey white projection into the lumen. Rest of right lobe and left lobe showed colloid filled nodules of varying sizes (Figure 2).

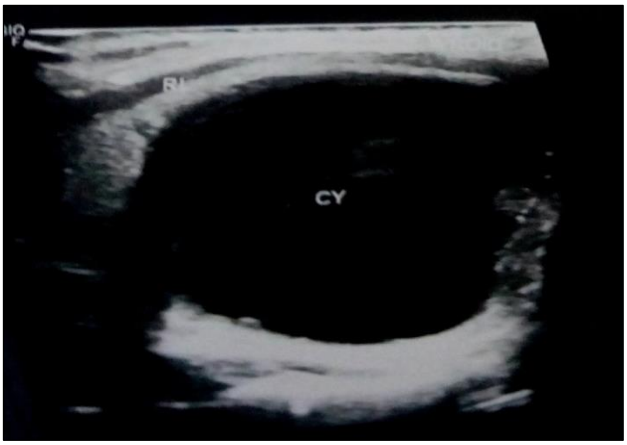

Figure 1: Doppler study demonstrating a cyst with thick irregular walls.

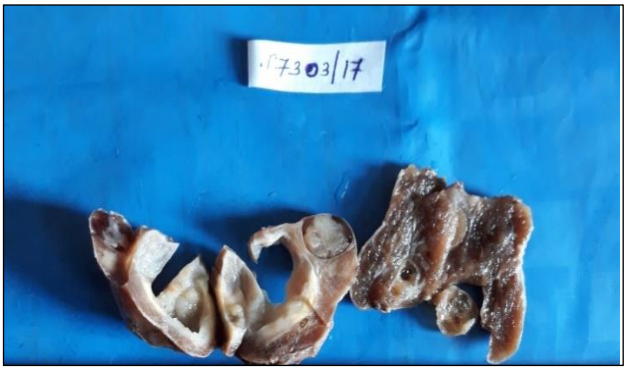

Figure 2: Gross-right lobe with a thick walled cyst measuring 2×2×1.4 cm containing clear fluid and focal grey white projection into the lumen.

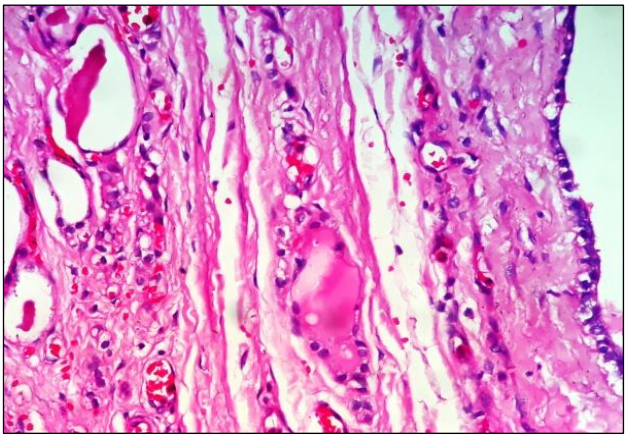

Figure 3 (a): Microscopy of the cyst in the right lobe revealed lining by ciliated epithelium.

Microscopy of the cyst in the right lobe revealed lining by ciliated columnar, stratified squamous and flattened epithelium (figure 3a, 3b, 3c). Subepithelium showed fibrocollagenous tissue with thyroid follicles and scattered lymphoplasmacytic infiltrate. The cyst was extensively sampled and no evidence of carcinoma was identified. Cholesterol clefts were also noted. A final report of intrathyroid thyroglossal cyst in a background of nodular colloid goiter was given.

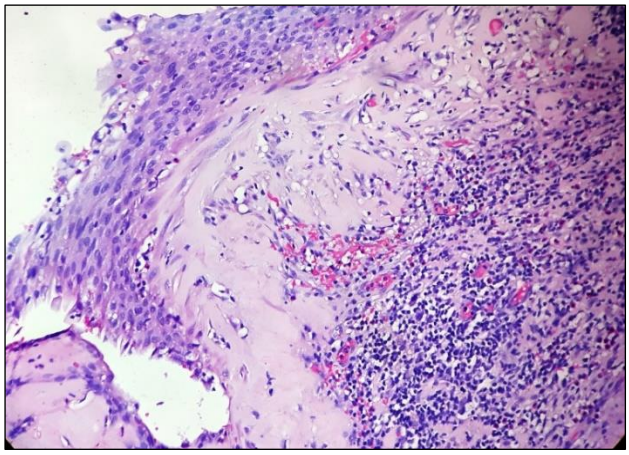

Figure 3 (b): Part of cyst wall lined by stratified squamous epithelium.

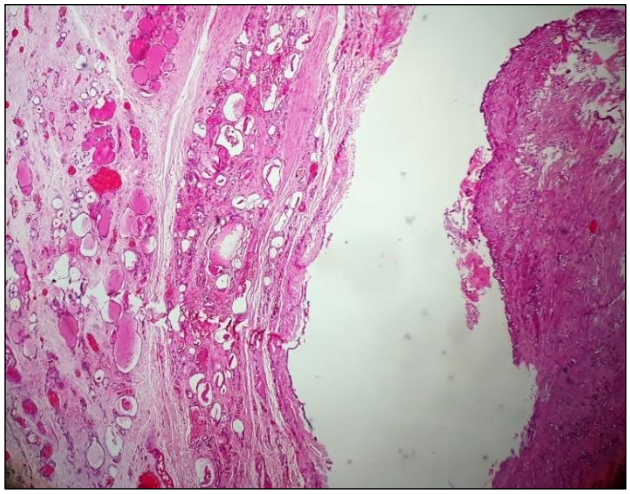

Figure 3 (c): Cyst wall lined by flattened epithelium. Subepithelium showing fibrocollagenous tissue with thyroid follicles.

DISCUSSION

Thyroglossal duct cysts (TDCs) are the most common congenital neck mass, usually seen in pediatric patients. Rarely it can occur in adulthood also.[2] During embryonic development, thyroglossal duct connects thyroid gland to the foramen cecum and hyoid bone, it involutes by the 10th week of development. If any failure occur in involution, thyroglossal duct or its remanants may persist. In 50 % of individuals, a remnant of the thyroglossal duct persists as pyramidal lobe of thyroid.[3] Classically, TDCs present as an asymptomatic anterior midline neck mass

that elevates with swallowing and tongue protrusion.[4] Patency of the duct anywhere along the descent of the thyroid gland can produce a thyroglossal duct cyst. Secretion from the lining epithelial cells produces cystic dilation. Intrathyroid location of throgossal cysts are rare and present as thyroid swelling. Radiologically it is difficult to differentiate intrathyroid TDC from other intrathyroid cysts like lymphoepithelial cyst, brachial cleft cyst or cystic thyroid nodule.[5] The role of fine needle aspiration is also limited in such cases. Histologically thyroglossal duct cyst show squamous to pseudostartified ciliated columnar epithelium.[6] They show thyroid tissue in cyst wall. Lymphoepithelial cyst and brachial cleft cyst although lined by stratified squamous and respiratory epithelium does not show thyroid tissue in cyst wall. Instead the cyst wall is fibrotic with lymphoid follicles. Also, the brachial cleft cysts have more likelyhood to be infected.[7] Malignancy occurring in TDC are very rare and according to literature they account for less than 1%. The histological types reported are either papillary carcinoma of thyroid origin or squamous cell carcinoma arising from the lining epithelium of the cyst. No such tumour was identified in our case.

Treatment of TDC is Sistrunk's procedure, which remove a portion of the hyoid bone and the entire TDC tract. For intrathyroid TDC, thyroidectomy is necessary. In our case radiology revealed an intrathyroid cyst. No tract was identified. The rest of thyroid showed nodules. FNAC also pointed towards nodular colloid goiter. Therefore, total thyroidectomy was done.

CONCLUSION

Thyroglossal duct cyst can present with non-classical presentations. Thyroglossal duct cysts should be considered as a differential for cystic nodules of thyroid. Radilogically it is difficult to distinguish between other cystic lesions of thyroid. FNAC also has a limited role. Hence histopathological evaluation has got an important role.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Lakshmi VP, Surendran D, Moothiringode S. Intra thyroid thyroglossal cyst: a rare presentation. Int J Res Med Sci 2019;7:3189-91.