



Thyroglossal duct cyst and thyroid Synchronous papillary carcinoma – Case Report

Introduction

Thyroglossal duct cysts (TGDC) are one of the most common congenital neck anomalies.

Malignant transformation with synchronous thyroid gland involvement is rare, but nonetheless important to bear in mind in the differential diagnosis of cervical masses.

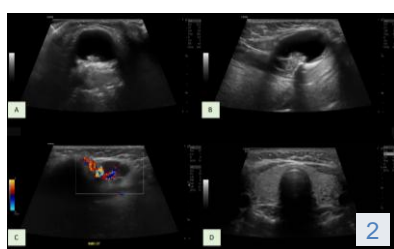
Clinical Case

24-year-old woman presenting with a superior midline cervical firm mass, mobile with both deglutition and tongue protrusion. Six-month evolution period.



Picture 1: Midline cervical mass mobile with deglutition

Cervical ultrasonography, CT and FNAB of the mass and associated lesions (thyroid nodule and suspicious submandibular lymph node) with thyroglobulin measurement, confirmed a thyroglossal cyst with papillary carcinoma with synchronous thyroid involvement.



Picture 2: Cervical ultrasound. A and B: Thyroglossal duct cyst transversal and longitudinal views, C: Thyroglossal duct cyst showing solid component with positive Doppler sign, D: Thyroid gland transversal view



Picture 3: Cervical CT. A: Sagittal plane revealing midline cystic multiseptated cystic lesion of 31x17x31 mm adjacent to the hyoid bone (rectangle), B: Coronal plane with the thyroglossal cyst extending to the base of the tongue, C: Axial plane showing cystic multiseptated mass anterior to the hyoid bone; solid intracystic component (arrow).

Sistrunk's Procedure + Total Thyroidectomy

were performed and the patient was discharged on levothyroxine.

Picture 5: Pathological specimens: thyroglossal duct cyst (superior) and thyroid (inferior) – left upper pole marked with suture.

Histopathology findings revealed a **multifocal classical papillary carcinoma** present in the thyroid and in ectopic tissue within the thyroglossal cyst, presenting with **local invasion of the surrounding soft tissue and hyoid bone.**

After multidisciplinary meeting, the patient was proposed to continue treatment with **radioactive iodine.**

Discussion

Thyroglossal duct cyst carcinoma is uncommon (0.7% to 1.5% of cases). It usually arises from clusters of thyroid cells found within the cyst.

Synchronous thyroid involvement occurs in **up to one third** of cases and is probably associated with a **multifocal pattern of presentation** rather than a metastatic disease. A positive FNAB should lead to prompt investigation to rule out thyroid concomitant pathology.

Surgical treatment is warranted for the treatment of TGDC carcinoma, the extent of surgery being the most significant prognostic factor. Cyst excision alone renders a high recurrence rate and thus **Sistrunk's procedure is recommended. Total thyroidectomy** as part of initial treatment should be pursued **in the presence of high-risk features.** Cervical lymph node spread at presentation and distant metastases are rare but should be excluded before surgery.

Postoperative **hormone suppression** (with levothyroxine) and/or ablation with **radioactive iodine** are controversial, but still believed **beneficial in selected cases.**

[1]: Sobri, F. B., Rami, M., Sari, U. N., Umar, M., Mudrick, D. K., Papillary Carcinoma Occurrence in a Thyroglossal Duct Cyst with Synchronous Papillary Thyroid Carcinoma without Cervical Lymph Node Metastasis: Two-Cases Report. Case Reports in Surgery Volume 2015, Article ID 872054, 5 pages | [2]: Loay M, Gertallaha, Eman Eltokhya, Taha A. Baiomya, Ola A. Harb, Invasive primary papillary carcinoma in a thyroglossal duct cyst: A case report and review of the literature. Human Pathology: Case Reports 15 (2019) 7–12 | [3]: T. Kennedy, M. Whitaker, G. Wadih, Thyroglossal duct carcinoma: a rational approach to management, Laryngoscope 108 (1998) 1154–1158. | [4]: Cherian MP, Nair B, Thomas S, Somanathan T, Sebastian P., Synchronous papillary carcinoma in thyroglossal duct cyst and thyroid gland: case report and review of literature. Head Neck. 2009 Oct;31(10):1387-91. | [5]: Florinda Cardoso, Alexandre Alves, Isabel Caldas, Jessica Neves, Mário Nora, Papillary carcinoma of the thyroglossal duct cyst – Case report and literature review. Revista Portuguesa de Cirurgia (2019) (42):22-30 | [6]: Naik, C., Basu, S., Synchronous malignancies of thyroglossal duct cyst and thyroid gland. The National Medical Journal of India, 2017;30:2;76-77 | [7]: W. Pietruszewska, M. Wągrowiska-Danilewicz, M. Józefowicz-Korczyńska, Papillary carcinoma in thyroglossal duct cyst with uninvolved thyroid. Case report and re-view of the literature, Arch. Med. Sci. 10 (5) (2014) 1061–1065. | [8]: Wong J, Lee JC, Grodski S, Yeung M, Serpell J. Cancer in thyroglossal duct cysts. ANZ J Surg. 2021 Nov 18. | [9]: Plaza CP, López ME, Carrasco CE, Meseguer LM, Perucho Ade L. Management of well-differentiated thyroglossal remnant thyroid carcinoma: time to close the debate? Report of five new cases and proposal of a definitive algorithm for treatment. Ann Surg Oncol. 2006 May;13(5):745-52.