

# Papillary thyroid carcinoma arising from thyroglossal duct cyst- A case report

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**ABSTRACT:** Carcinoma which arises in the thyroglossal duct cyst is a very rare. About 215 cases have been reported worldwide till yet. We wish to report one such case of papillary carcinoma of the thyroglossal duct cyst in a 50 year old female. In a majority of the cases, the diagnosis is made on histopathological evaluation after the excision of the clinically benign thyroglossal duct cyst.

**KEYWORDS:** Thyroglossal duct cyst carcinoma, papillary carcinoma.

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## INTRODUCTION

Thyroglossal duct cyst is the most frequently occurring congenital anomaly of the thyroid gland that arises from remnants of the thyroglossal duct. It is the commonest cystic lesion found in the neck.<sup>1</sup> The methods involved for the development of cystic changes is not fully understood.<sup>2</sup> Ninety-five percent of thyroglossal duct cysts present as an asymptomatic midline cystic mass and rest presents as acute inflammatory episodes or discharging fistula. Thyroglossal duct cyst carcinoma, although rare (incidence 1%), may arise from the thyroid tissue remnants which are located within the thyroglossal duct.<sup>3</sup> Papillary carcinomas account for 85-92% of all the thyroglossal duct cyst carcinomas with a relatively non-aggressive behaviour and a little lymphatic spread.<sup>4</sup> Medical literature is very sparse for this rare entity. We came across with one such case and hence wish to report it.

## CASE REPORT

The patient was a 50 year female who was operated at some private hospital with clinical diagnosis of thyroglossal cyst. The histopathology revealed papillary carcinoma thyroid in thyroglossal cyst tissue and colloid nodule in the isthmus removed. Patient was referred to our hospital. The histopathology was reviewed at our pathology department and revealed the same finding. Patient gave history of the swelling in midline neck before surgery which was not present from the childhood, but had increased in size in last 4 months. Clinical examination was essentially normal except healthy scar mark of previous surgery. Biochemical and haematological parameters were within the reference range. Ultrasonography of neck reported normal thyroid lobes and absent thyroid isthmus with few small upper cervical lymph nodes. CECT neck and thorax was done to look for any residual or metastatic disease. CECT showed normal thyroid lobes, absent isthmus. A slight soft tissue mass seen anterior to cricoid cartilage which showed enhancement after contrast on left side. Bilateral lung fields, trachea and major bronchi were normal. Completion thyroidectomy was planned for the patient. Patient underwent total thyroidectomy and bilateral modified radical neck dissection. Postoperative period was uncomplicated and patient was discharged after one week. Final histopathology report showed colloid goitre in bilateral thyroid lobes with hyperplastic follicles on right side. Neck nodes were negative for metastasis. There was no evidence of tumor on the histology. Patient underwent whole body radioiodine scan (WBS) after 6 weeks with I<sup>131</sup>. There was 1% remnant uptake which was ablated with 30 mCi I<sup>131</sup>. Follow-up PET scan did not show any additional disease. WBS at 6 months was normal. Serum levels of Thyroglobulin (Tg) was 4 ng/ml and anti-Tg-antibody (ATA) was 28 IU/ml. After one year of follow-up patient was clinically euthyroid on eltroxin without any structural and biochemical evidence of disease.



**Fig 1: CECT image after first surgery showing bilateral thyroid lobes.**

## **DISCUSSION**

The first case of thyroglossal duct cyst carcinoma was reported by Uchermann in 1915. The present day knowledge about this rare disease is due to the case reports which had been published since then. The diagnosis of this disease is made usually on final histopathology of excised specimen. Papillary carcinoma is the commonest histology which is found in the thyroglossal duct cyst carcinoma (80%),<sup>5,6</sup> followed by follicular carcinoma (9%), squamous cell carcinoma (5%), adenocarcinoma (2%), anaplastic tumours (1%) and others (3%). Hard consistency, rapid increase in size, cervical lymphadenopathy and local invasion represents malignant transformation.<sup>3</sup> A local invasion rarely occurs (4%), while metastasis in the cervical lymph nodes is present in 11% of the cases.<sup>7</sup>

Sistrunk's procedure is adequate if it carcinoma is still localized to cyst wall. A capsular invasion, however, warrants a wider excision of the surrounding tissue. Thyroidectomy should be considered if the thyroid gland exhibits changes clinically or radiologically, or if a history of radiation to the neck is present. Neck dissection is recommended if there are suspected or positive lymph nodes. Suppressive therapy is recommended for these carcinomas. The results of adequate excision by using Sistrunk's procedure have been found to be excellent.<sup>3,7,9</sup>

Papillary carcinoma in the thyroglossal duct cyst has a good prognosis and metastasis is reported to be exceedingly rare.<sup>8</sup>

## **REFERENCES**

- [1]. Allard, R.H.B.: Thyroglossal cyst. *Head Neck Surg.*, 5:134-146, 1982.
- [2]. Todd NW. Common congenital anomalies of the neck. *Embryology and surgical anatomy. Surgical Clinics of North America* 1993;73: 599-610.
- [3]. Godara R, Marwah S, Ahuja V, Sen J, Marwah N, Sushila Papillary carcinoma in a thyroglossal duct cyst: A case report and literature review. *Journal of Chinese Clinical Medicine* April 2009; 4 (4); 238-40.
- [4]. Aghaghazvini L, Mazaher H, Sharifian H Aghaghazvini S, Assadi M. Invasive thyroglossal duct cyst papillary carcinoma; a case report. *Journal of Medical Case Reports* 2009; 3: 9308.
- [5]. Wigley TL, Chonkich G D. Papillary carcinoma arising in a thyroglossal duct cyst. *Otolaryngol Head Neck Surg.* March 1997; 1116(3): 386-88.
- [6]. Vera-Sempere F, Tur J, Perolada JM, Morera C. Papillary thyroid carcinoma arising in the wall of a thyroglossal duct cyst. *Acta Otorhinolaryngol Belg* 1998;52: 49-54.
- [7]. Zivaljevic V, Bozic V. Carcinoma in a thyroglossal duct cyst. *Acta Chir Belg* 2006; 106:252-53.
- [8]. Yang, Y.J., Haghir, S., Wanamaker, J.R., et al.: Diagnosis of papillary carcinoma in a thyroglossal duct cyst by fine needle aspiration biopsy. *Arch. Pathol. Lab. Med.*, 124:139-142, 2000.
- [9]. Patel SG, Escrg M, Shaha AR, Singh B. Management of well differentiated thyroid carcinoma presenting in a thyroglossal duct cyst. *J Surg Oncol* 2002;79:134-39.