



# Diagnosis: Carcinoma of the Thyroglossal Duct Cyst

L. Aghaghazvini MD<sup>1</sup>

H. Sharifian MD<sup>1</sup>

H. Mazaher MD<sup>1</sup>

Sh. Aghaghazvini<sup>2</sup>

1. Department of Radiology, Amir-Aalam Hospital, Tehran University of Medical Sciences, Tehran, Iran.

2. Medical Student, Azad University of Medical Sciences, Tehran, Iran.

Corresponding Author: Leila Aghaghazvini

Email: la\_ghazvini@yahoo.com

Tel-Fax: +9821-6670-4998

Thyroglossal duct cyst (TDC) is the most common congenital anomaly of the thyroid gland and the most common congenital cervical abnormality in childhood. It also is the most common midline mass (70% abnormality in childhood and 7% in adolescence).<sup>1-3</sup>

Carcinoma arising from a TDC is rare, which composes only 1% of TDC cases. It is characterised by a relatively non-aggressive behaviour and rare lymphatic spread.<sup>2</sup> Most cases of TDC carcinoma have been diagnosed during the third and fourth decades of life and rarely in children before 14 years of age.<sup>2-4</sup> About 85%-92% of all TDC carcinomas are papillary carcinoma.<sup>1</sup> Regional lymph node metastasis of these TDC carcinomas occur in 7.7%-12.9% of cases and local invasion rarely occurs.<sup>1</sup> A rapid increase in size, pain, invasion to adjacent structures and presence of enlarged lymph nodes may suggest malignancy.<sup>3,4</sup>

In our case on physical examination there was a 10×5.5 cm, painless and relatively mixed smooth and hard texture mass in front of the hyoid bone with extension to the thyroid gland. The thyroid gland was inseparable from the mass.

Computed tomography revealed a relatively large (100×55×48 mm) heterogenous enhancing soft tissue mass with a cystic component in the midline of the anterior neck space. The mass extended from the base of the tongue (separated from its muscles) to the thyroid gland inferiorly and the submandibular gland bilaterally. Destruction of the hyoid bone was accompanied with chondrolysis of the thyroid cartilage. A hypodense lesion of the left thyroid lobe with some adenopathy in the submandibular space was detected.

According to the above mentioned findings, the aggressive nature, the heterogenous appearance with cystic components, the large size and invasion to ad-

acent structures, sarcoma of soft tissue, malignancy of minor or major salivary gland were mentioned. Based on the midline location of the tumoral mass with extension from the base of the tongue (completely separated from its muscles) to the thyroid gland level, malignancy of TDC were our differential diagnosis.

Considering the midline location of the mass and its extension from the tongue (separated from its muscles) to the thyroid gland, carcinoma of TDC was our first probable diagnosis. Whereas the completely unusual presentation of the tumoral mass (large size and aggressive nature) were compatible with the other diagnosis. The thyroid function tests were normal and the isotope scan revealed cold nodule of the LT lobe of the thyroid gland.

FNA and pathology reports confirmed papillary carcinoma of the thyroglossal duct cyst.

The tumoral mass, the hyoid bone and the thyroid gland were excised and no recurrence was detected after six months.

## References

1. Martin-Peres E, Larranaga E, Marron C. Primary papillary carcinoma arising in thyroglossal duct cyst. *Eur J Surg* 1997;163:143-5.
1. Dedivitis RA, Guimaraes AV. Papillary thyroid carcinoma in thyroglossal duct cyst. *Int Surg* 2000;85:198-201.
2. Öztürk Ö, Demirci L, Egeli E, Çukur S, Belenli O. Papillary carcinoma of thyroglossal duct cyst in childhood. *Eur Arch Otorhinolaryngol* 2003;260:541-3.
3. Sebastian BJ, Sreekumar S, Vaidyanathan S. Thyroglossal duct cyst carcinoma: report of a case and review of literature. *Thyroid Research and practice* 2004;1:27-9.
4. Kazemi M, Assadi M, Kazemi AA, Ghazvini LA. Primary papillary carcinoma of thyroglossal duct cyst. *Hell J Nucl Med* 2006;9(1):39-40.