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Thyroid ectopia mimicking a thyroglossal duct cyst (TDC): a case report

Cover Page Footnote

Nil

Thyroid ectopia mimicking a thyroglossal duct cyst (TDC): a case report

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Abstract

Thyroid Ectopia is a developmental defect which occurs during the stage of early embryogenesis of the Thyroid gland. A frequent presentation is around the course of the thyroglossal duct in the neck, a normal path of thyroid gland descent. If Thyroid Ectopia is mistaken for a Thyroglossal Duct Cyst and is removed unintentionally, it would cause hypothyroidism. We report a case of Thyroid Ectopia mimicking a Thyroglossal Duct Cyst in a five year old child who had subclinical hypothyroidism and having regular, long-term follow up and treated with Thyroid supplement.

Key words: Thyroid Ectopia, Thyroglossal Duct Cyst, developmental defect.

INTRODUCTION

Thyroid Ectopia is a developmental defect which is defined as functioning thyroid tissue found anywhere other than the usual anatomic location of thyroid gland (Pediatric Otolaryngology, 2002). Thyroid Ectopia seems to have a rare incidence given its asymptomatic nature. However, Di Benedetto, 1997 reported that failure of descent of the thyroid gland occurs approximately in one in 200,000. If Thyroid Ectopia is mistaken for a Thyroglossal Duct Cyst (TDC) and is removed unintentionally, it would cause hypothyroidism. Surgical management is not necessary except for a long term follow up with thyroid supplements.

CASE REPORT

A five-year-old male child was referred to our centre with history of swelling of the anterior portion of the neck. A diagnosis of TDC and surgery was suggested by the referring doctor. Except for the swelling, the child was asymptomatic. No history of cold intolerance, dryness of skin, lethargy or fatigue was reported. The child's mother was healthy, however, reported that she had not received any medications

during her pregnancy. The parents reported that the child was healthy since birth and had attained normal milestones. No history of thyroid problems in the family was reported. On examination, cystic swelling of external mass which was smooth, firm and non-tender was found. However, the thyroid gland was not palpable in the normal position. The child's weight was 16 kgs.

Thyroid function tests were advised. The Thyroid function tests revealed thyroxin (T4) level of 8.03 µg/mL (normal 5.26 to 14.8 µg/mL), a tri-iodothyronine (T3) level of 2.2 ng/mL (normal 1.27 to 3.8 ng/mL) and thyroid stimulating (TSH) level of 6.880 µIU/mL was elevated (normal 0.3 to 5.0 µIU/mL). No thyroid gland was detected in the normal location in the lower neck.

Further Scintigraphy using technetium-99m pertechnetate thyroid scan revealed focus of radiotracer concentration seen in the central upper neck corresponding to the palpable nodule. The thyroid scan confirmed that the palpable nodule is the functioning thyroid tissue. Sublingual thyroid gland was thus diagnosed.

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Fig. 1: Thyroid ectopia mimicking a typical Thyroglossal Duct Cyst (TDC) in the 5-year-old boy

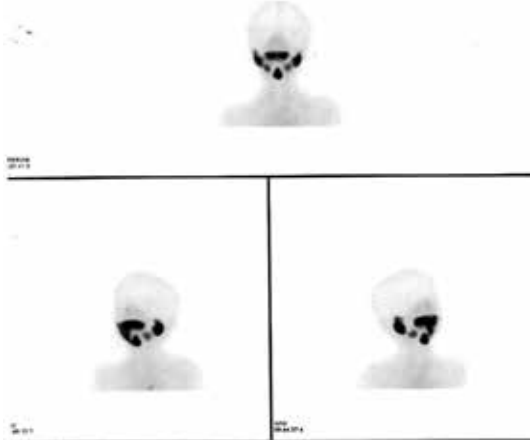


Fig. 2: Technetium-99m pertechnetate Thyroid scan showing Thyroid ectopia without evidence of functioning thyroid tissue in lower neck

DISCUSSION

Hickman (1869) first described the case of Thyroid Ectopia. Young, Loong and Cockram (1987) classified Thyroid Ectopia depending on its anatomic location as lingual (at the base of the tongue), sublingual (below the tongue), prelaryngeal (in front of larynx) or substernal (in the mediastinum). Usually if the thyroid gland cannot be palpated in case of a presentation of a TDC, an ultrasonography or a radionuclide scan/ Scintigraphy is done to locate the presence as well as the location of a thyroid gland.

Most of the cases are euthyroid, since Thyroid Ectopia secretes normal serum levels of T4, T3 and TSH. However, these hormones may be insufficient to combat physiological stress like attaining puberty, menstruation, infection, trauma, surgery and so on.. Goitre may develop in response to decreased levels of circulating hormone in turn leading to TSH surge (Leung, Wong & Robson 1995). The most important diagnostic tool to detect thyroid Ectopia is Scintigraphy. Fine Needle Aspiration Cytology (FNAC) helps in confirming the diagnosis of a benign or a malignant lesion.

In children who are asymptomatic with a euthyroid status, there is no requirement for any treatment however, a mandatory long term and regular follow-up is necessary to prevent hypothyroid status as well as goiter (Leung *et al.*, 1995). Nevertheless, Thyroid supplementation is essential for children with subclinical hypothyroidism. Most importantly, surgeons must refrain from surgical removal of thyroid Ectopia mimicking a TDC, since unintentional removal of thyroid Ectopia causes hypothyroidism.

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