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Case Report

Schwannoma of the thyroid gland – A continued preoperative diagnostic dilemma

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Abstract

Non epithelial tumors of the thyroid gland are extremely rare, representing <1% of all thyroid tumors. These tumors most often mimic a thyroid nodule. A case of Schwannoma of the thyroid gland which was diagnosed on histopathological examination after a hemithyroidectomy is reported here.

Keywords: Schwannoma, Thyroid Nodule, Hemithyroidectomy.

1. Introduction

Schwannomas are benign neoplasms of the peripheral nerves originating in the schwann cells. A case of schwannoma of thyroid gland which simulated a thyroid nodule is reported here. The aim of this case report is to highlight its rarity and as well as its preoperative diagnostic dilemma. The radiological and cytological procedures did not establish the exact diagnosis preoperatively; which was achieved postoperatively by histopathologic analysis of the excised specimen.

2. Case report

A 34 year old female presented with a history of swelling on the neck for 7yrs. It was insidious in onset, small to start with and gradually progressed to attain present day size. The patient was otherwise asymptomatic. Examination revealed a swelling on right anterolateral aspect of the neck measuring 9×6cm extending from the midline to the anterior border of right sternocleidomastoid muscle (Figure 1).

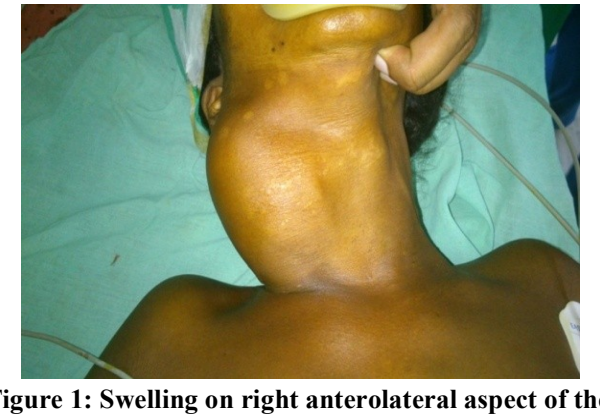

Figure 1: Swelling on right anterolateral aspect of the neck

The swelling moved with deglutition. It was firm in consistency, had a smooth surface and was non-tender. FNAC of the swelling was reported as colloid goiter. Thyroid function test was normal. Ultrasonography of neck showed a large cystic lesion in the right lobe of thyroid gland measuring 3×2.5×3 cm on the lateral aspect. The lesion showed few septations and floating internal echoes. This was reported as cystic degeneration of a thyroid nodule. A right hemithyroidectomy was performed under general anaesthesia (Figure 2).

Figure 2: A right hemithyroidectomy

The post operative course was uneventful. Histopathological examination of specimen showed a well encapsulated tumor with hypercellular areas (Antoni A) and hypocellular areas (Antoni B) and tumor cells arranged in pallisading pattern (Verocay bodies) . Normal thyroid tissue was seen outside the capsule. These findings were typical of a schwannoma (Figure 3).

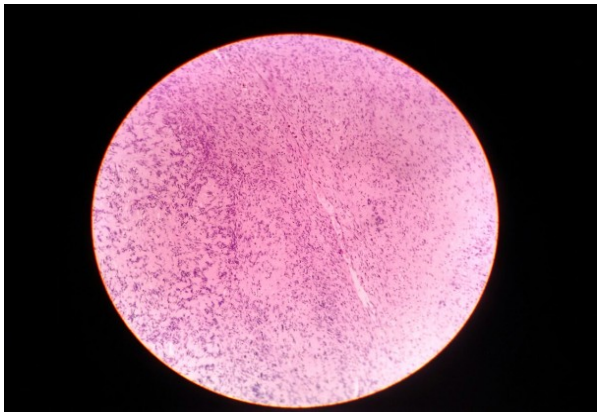

Figure 3: Schwannoma

3. Discussion

Benign mesenchymal tumors of the thyroid are exceptional. Isolated cases of lipoma, hemangioma, angiolipoma, lymphangioma, leiomyoma, schwannoma, granular cell tumor, hemangiopericytoma, and solitary fibrous tumor have been reported.[2]

A primary schwannoma of the thyroid was first reported in 1964 by Delaney and Fry.[3] Although the first description of the schwannoma as a non-epithelial tumor arising in the thyroid gland was made by Frantz in 1962.[4] Their origin from the intrathyroidal sensory nerves or sympathetic and parasympathetic innervations has been postulated.[5] A review of literature produced only 18 primary cases of primary schwannomas of the thyroid, mostly reported as single case reports, most of which simulated thyroid nodule.[6,7] Histologically schwannoma is composed of a uniform population of cells that express the phenotype of schwann cells. The tumor cells are spindle shaped and have pale eosinophilic cytoplasm that merges imperceptibly with adjacent collagen bundles. The nuclei are elongated with tapering ends. In parallel alignment, they form interwoven fascicles. When compact this configuration is termed "Antoni A"; when areolar or myxomatous, it is termed "Antoni B". Pallisading tumor cells arranged in military battle lines with an intermediary anuclear zone, constitute the hallmark Verocay body.[8]

The patient reported here presented with a swelling of the right lobe of thyroid gland. Ultrasonographic evaluation was reported as a cystic degeneration in a thyroid nodule. FNAC of the swelling showed a colloid goiter. Though the patient was asymptomatic, it was decided to carry out a right hemithyroidectomy due to increase in size of the swelling. Histopathological examination of the excised specimen revealed a schwannoma of thyroid. This case is being reported to highlight the fact that it is extremely difficult to differentiate schwannoma thyroid from a cystic thyroid nodule as clinical and sonological characteristics can be similar in the two. FNAC has draw backs in terms of accuracy as described by Zbaren *et al*[9] and does not constitute an effective means of diagnosis. In this case too, FNAC revealed only a colloid goiter. Sonographically too, it was reported as a cystic degeneration in a thyroid nodule. Only the histopathological examination of the excised specimen was diagnostic.

4. Conclusion

Schwannomas of the thyroid are extremely rare. They are often mistaken for a thyroid nodule. It is difficult to make diagnosis before surgery and the only treatment for the disease is surgical removal after which the exact diagnosis can be established.

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