**Scholars Journal of Medical Case Reports** **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2015; 3(7):642-643 **ISSN 2347-9507 (Print)**
©Scholars Academic and Scientific Publishers (SAS Publishers)
(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2015.v03i07.026

# Primary Schwannoma of Thyroid Presenting As Nodular Goitre: A Rare Case

**Dr. R. Sindhu*[1], Dr.S.K. Behera[2], Dr. D.P. Mishra[3]**
[1]Post graduate in Department of pathology, MKCG medical college, Berhampur, Odisha, 760004, India.
[2]Assistant Professor in Pathology, MKCG medical college, Berhampur, Odisha.760004, India.
[3]Professor in Pathology, MKCG Medical College, Berhampur, Odisha. 760004, India

***Corresponding author**
Dr. R. Sindhu
Email: sindhushankar51@gmail.com

**Abstract:** Schwannomas are benign neoplasm arising from Schwann cells of the peripheral nervous system. In the head and neck, the vagus and the cervical sympathetic chain are the common sites for schwannoma. But schwannoma arising from thyroid are very rare. Here, we report a case of schwannoma of thyroid in a 40 year old male which was early diagnosed as nodular colloidgoitre on Fine needle aspiration cytology (FNAC) but laterdiagnosed to be scwannoma by histopathological examination. The histopathological diagnosis was also confirmed by immunohistochemistry (IHC) in which the spindle cells showed strong and diffuse positivity for S100 protein. We report this case because of its rarity and to emphasize the importance of preoperative or intraoperative diagnosis of these tumors.
**Keywords:** Schwannoma, thyroid, histopathology, nodular goitre.

## INTRODUCTION

Schwannomas are benign neoplasms originating from the schwann cells.Schwannomas, first reported by Verocay in 1908, are common form of peripheral nerve sheath tumors[1]. Out of all scwannomas, 25 % occur in the head and neck region [2], most of them arising in relation to the peripheral nerves and cervical sympathetic chain[3]. But schwannoma arising as primary neoplasm of thyroid is very rare. The first reported case of thyroid schwannoma was by Delaney and Fry in 1964[4]. Till date, upto our knowledge there have been only 19 cases reported in English literature [3]. Here we report a case of thyroid schwannoma because of its rarity and to emphasize the importance of preoperative or intraoperative diagnosis of these tumors.

## CASE REPORT

A 40 year old male presented with a right side nodular thyroid swelling which was gradually increasing in size since 10 years. The swelling moves with deglutition. His serum T3, T4 and TSH was found to be normal. Ultrasonography (USG) of thyroid showed a well-defined hypoehogenic mass arising from the right side of thyroid. FNAC was reported as nodular colloid goiter following which hemi thyroidectomy was done.

Gross showed a well circumscribed encapsulated mass of size 10x6x3 cm. Cut section showed a solid greyish white mass along with myxoid change and areas of hemorrhage. Compressed normal thyroid tissue was seen at the periphery(Fig-1).

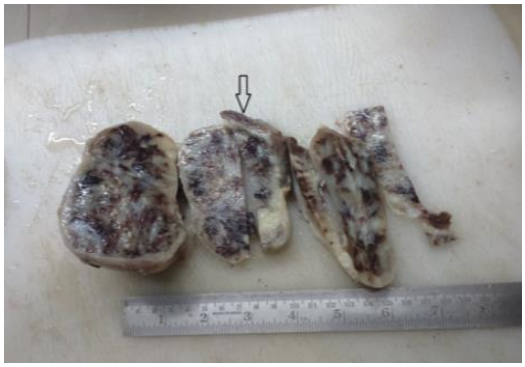

**Fig-1: Gross appearance of tumor with myxoid change and hemorrhage with normal thyroid tissue at periphery (black arrow).**

Histo-section stained by hematoxylin and eosin stains showed a well encapsulated tumor along with thyroid tissue compressed at the periphery of the tumor. Tumor cells were present in two morphological patterns, hypercellular (Antoni A) and hypocellular (Antoni B) areas consisting of spindle cells arranged in fascicles with wavy cytoplasm and hyperchromatic nucleus along with cells showing nuclear pallisading (verocay bodies) in hypercellular areas. Blood vessels show classical fibrinoid necrosis (FIGURE 2 and 3). Immunohistochemistry reveals strong positivity for S100 protein by the spindle cells thus confirming the diagnosis of schwannoma (Fig-4).

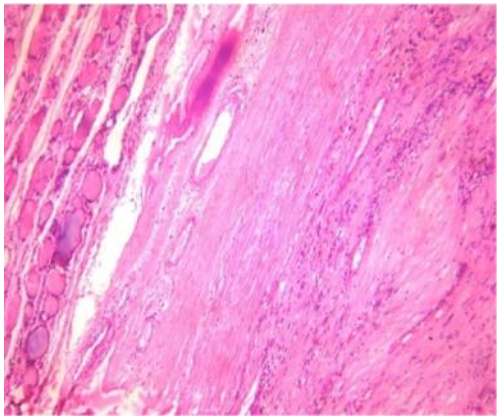

**Fig-2: Photomicrograph showing hypercellular and hypocellular areas with normal thyroid follicles at the periphery. (H and E, X200 xs).**

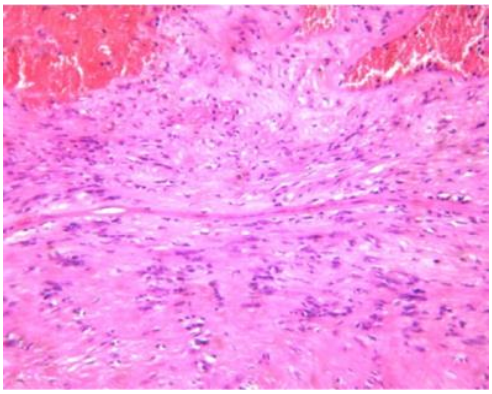

**Fig-3: Photomicrograph showing spindle cells with nuclear palisading ( verocay bodies) (H & EX400x)**

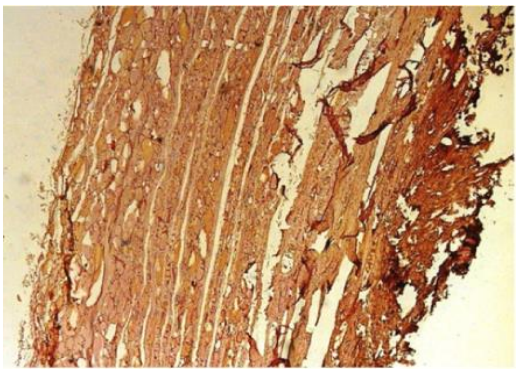

**Fig-4: Immunohistochemistry shows spindle cells positive for S100 protein.**

## DISCUSSION

Non-epithelial cancers (neurinoma, teratoma, hemangioma, lipoma, lymphoma, and leiomyoma) occur very rarely in the region of the thyroid. Peripheral nerve sheath tumors of the thyroid may be benign or malignant [4], the benign variety includes neurofibromas and schwannomas. The origin of primary thyroid schwannomas - are thought to arise from the intrathyroid sensory nerves or from the sympathetic and parasympathetic innervation to thyroid[1]. These are slow growing, encapsulated tumors, which are commonly benign in nature and must be suspected when examining the neck for a solitary swelling of long standing duration. A review of 18 published cases of thyroid bed schwannoma showed that they were often mistaken for a thyroid nodule [5] since they share both clinical (painless hard, elastic, mobile on swallowing) and sonographic (round or elongated, tendency to hypoechogenicity, possibly cystic aspect, thickened wall, abundant internal and peripheral vascularization) characteristics. Differential diagnosis, therefore, seems difficult. Also in most of the cases, FNAB report was found to be inconclusive because of scanty material yield or diagnosed as colloid goiter because of sampling of normal thyroid tissue leaving the tumor.

## CONCLUSION

Hence, schwannoma of thyroid is very rare and provides a diagnostic difficulty because of same clinical and FNAC characteristics with a thyroid nodule when normal thyroid gland is sampled leaving the tumor tissue. USG guided FNA has to be done for correct diagnosis of these tumors. Intra operative frozen section can be done to prevent over diagnosis thereby preventing over surgery. Hence, better co-operation between surgeon, pathologist and radiologist may lead to correct pre-operative diagnosis and right treatment.

## REFERENCES


1. Gamal WL, Abdel Khalek MS, CrawfordBE, Kandil EH; Hoarseness due to a thyroid mass. Symptomatic thyroid schwannoma. The Neth J Med, 2011; 69(1):39-40.
2. Dhar H, Dabholkar JP, Kandalkar B, Godke R; Primary thyroid Schwannoma Masquerading as a thyroid nodule: A case report with review of literature. The Southeast Asian Journal of Case Report and Review, 2014; 3(3):755-763.
3. Cashman E, Skinner LJ, Timon C; Thyroid swelling: an unusual presentation of a cervical sympathetic chain schwannoma. Medscape J Med, 2008; 10(8):20-1.
4. AnJ, Oh YL, Shin JS, Jeong HS; Primary schwannoma of thyroid gland. Acta Cytol, 2010;54:857–62.
5. De Paoli F, Giugliano G, Casadio C, Tredici P, Bruschini R, De Fiori E; Schwannoma of thyroid bed. A case report and considerations on interdisciplinary collaboration. Acta Otorhinolaryngol Ital, 2005;25:250– 4.