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A CASE REPORT OF THYROID NODULE AT OUR HOSPITAL

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ABSTRACT

Background: Thyroid nodules are common. The clinical importance of thyroid nodules is related to excluding malignancy (4.0 to 6.5% of all thyroid nodules), evaluate their functional status and assess for the presence of pressure symptoms. Incidental thyroid nodules are being diagnosed with increasing frequency in the recent years with the use of newer and highly sensitive imaging techniques. The high prevalence of thyroid nodules necessitates that the clinicians use evidence-based approaches for their assessment and management. New molecular tests have been developed to help with evaluation of malignancy in thyroid nodules. This review addresses advances in thyroid nodule evaluation, and their management considering the current guidelines and supporting evidence. **Case Details:** This case report aims to throw light on an interesting case of thyroid nodule with hypertension in a 68 years old female patient. The patient presented with a slowly progressing asymptomatic swelling in front of the neck crossing the midline towards right side of the neck. There is also a special emphasis to a detailed review of literature. **Conclusion:** Patients who identify a growing mass over the neck should get evaluated by a licensed provider, although many thyroid neoplasms exist, follicular neoplasms are relatively common, fine needle aspiration cytology (FNAC) cannot rule out if the follicular neoplasm is malignant as tissue architecture for invasion can only be identified in a tissue biopsy specimen and complications occurring in a follicular neoplasm should not be identified as a cause for malignant transformation. A proven benign follicular tumour rarely, if not ever, transforms into a malignant lesion

KEYWORDS

Thyroid nodule, benign follicular nodule, malignant invasion and fine needle aspiration cytology.

INTRODUCTION

Thyroid nodule is a discrete lesion in the thyroid gland that is radiologically distinct from the surrounding thyroid parenchyma [1]. Thyroid nodules are common; their prevalence in the general population is high, the percentages vary depending on the mode of discovery: 2–6 % (palpation), 19–35 % (ultrasound) and 8–65 % (autopsy data) [2-4]. They are discovered either clinically on self-palpation by a patient, or during a physical examination by the clinician or incidentally during a radiologic procedure such as ultrasonography (US) imaging, computed tomography (CT) or magnetic resonance imaging (MRI) of the neck, or fluorodeoxy glucose (FDG) positron emission tomography; with the increased use of sensitive imaging techniques, thyroid nodules are being diagnosed incidentally with increasing frequency in the recent years [5,6]. Though thyroid nodules are common, their clinical significance is mainly related to excluding malignancy (4.0 to 6.5% of all thyroid nodules) [3,7-9], evaluating their functional status and if they cause pressure symptoms.

Thyroid Ultrasound (US) is a noninvasive imaging technique that should be performed on all patients with nodules suspected clinically or incidentally noted on other imaging studies such as carotid ultrasound, CT, MRI, or 18-FDG-PET scan. Ultrasound will help confirm the thyroid nodule/s, assess the size, location and evaluate the composition, echogenicity, margins, presence of calcification, shape and vascularity of the nodules and the adjacent structures in the neck including the lymph nodes. If there are multiple nodules, all the nodules should be assessed for suspicious US characteristics [5-7].

FNAC is considered the gold standard test for evaluating thyroid nodules. It is an office procedure, done under no or local anesthesia with 23 to 27gauge needle, to obtain tissue samples for cytological examination. It is a safe, accurate and cost-effective way for evaluating thyroid nodules. FNAC can be done using palpation or with ultrasound guidance. US machines (7.5 to 10 MHz transducers), provide clear and continuous visualization of thyroid gland and allow for real time visualization of the needle tip to ensure accurate sampling. Ultrasound guided technique has lower nondiagnostic and false negative cytology rates compared to palpation technique. US guided FNA is preferred for difficult to palpate nodules, predominantly cystic or posteriorly located nodules. In practice, more clinicians are using ultrasound guided FNAC (either free hand technique or with the help of a needle guide) over palpation guided technique for all thyroid FNAC [10-12].

Case Report

A 68-year-old female patient reported to ENT OPD of Our hospital with presenting complaints of neck mass crossing the midline towards the right side for the past 10 years. She was hypertensive since 10 years on regular anti-hypertensive medication. There were no other symptoms (e.g., numbness, dysphagia, stridor, speech, or masticatory difficulties) due to the lesions. There was no history of trauma, fever, or similar swelling elsewhere in the body. Past medical history revealed the patient was healthy and had no systemic diseases nor deleterious habits.

On general physical examination, the patient was moderately built and conscious, with a normal gait. His vital signs were within normal limits. Battery of investigations were done pre-operatively, all the routine blood investigations were within normal limits including thyroid function tests. Fine needle aspiration biopsy was done which showed Bethesda II Benign Consistent with Benign Follicular Nodule. Radiological investigations (USG neck) revealed Right lobe of thyroid gland is replaced by large solid heterogeneous nodule with patchy necrotic areas and significantly increased vascularity possibility of Benign Nodule.

After pre-operative surgical fitness, the tumour was excised under local anaesthesia. The with following peculiarities,

a. Operated under local anesthesia
b. Paper thin thyroid gland covering the nodule, preserved with meticulous dissection causing no damage to parathyroid gland and recurrent laryngeal nerve.
c. Patient was hypertensive since last 10 years under medication became normotensive and not under any anti-hypertensive medication now.

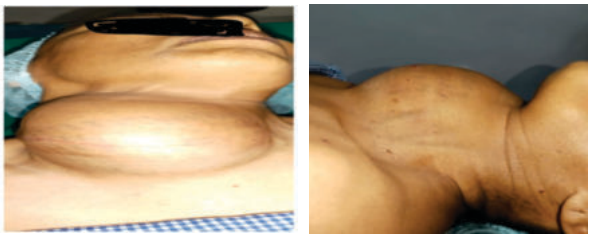

Figure 1: Shows Preoperative View

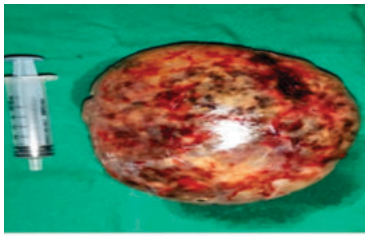

Figure 2: Shows Postoperative View

DISCUSSION

Follicular adenomas are benign neoplasms. They are slow-growing and can progress to a size that may cause compressive symptoms such as dyspnea, dysphagia, hoarseness. After due evaluation of symptoms, the patient should ideally be reassured that these do not signify a malignant process but rather that the mass is causing compression on another structure. 20% of non-functioning follicular adenomas have oncogene mutations that may progress to develop into a follicular carcinoma. N-RAS and K-RAS have been implicated in this transformation. If a follicular neoplasm is proven to be a carcinoma, then prompt oncological management is necessary. Patients with biopsy-confirmed follicular adenoma ideally do not need new therapy. Thyroxine supplementation is not recommended to suppress the gland unless hypothyroidism occurs after gland lobectomy. The risk of malignancy is more in the Chernobyl post-radiation studies [13-16]. Follicular adenomas are common and usually present as solitary thyroid nodules. Fine needle aspiration cytology cannot differentiate between a follicular adenoma or carcinoma. A definitive diagnosis is by a tissue biopsy specimen. A lobectomy and isthmusectomy are adequate for such lesions. Rarely, if other comorbidities are present, a total thyroidectomy may be necessary. An interdisciplinary team approach between the surgeon, the pathologist, the radiologist must perform to optimize patient outcomes [12-16].

CONCLUSION

- Patients who identify a growing mass over the neck should get evaluated by a licensed provider.
- Although many thyroid neoplasms exist, follicular neoplasms are relatively common.
- FNA cytology cannot rule out if the follicular neoplasm is malignant as tissue architecture for invasion can only be identified in a tissue biopsy specimen.
- Complications occurring in a follicular neoplasm should not be identified as a cause for malignant transformation. A proven benign follicular tumor rarely, if not ever, transforms into a malignant lesion.

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