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MICROPAPILLARY CARCINOMA IN A BENIGN THYROID NODULE- AN INCIDENTAL RARE FINDING

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ABSTRACT
Thyroid nodules constitute a diagnostic challenge mainly because of the need to exclude thyroid malignancy. It is estimated that in recent years, with the use of thyroid ultrasound and other neck imaging modalities, nodules too small to be palpated are more often discovered. Papillary thyroid microcarcinomas, as defined by the World Health Organization less than 1.0 cm in size. We intend to present a rare case of a 52 years male, who presented with a cystic lump over medial aspect of anterior neck, with fine needle aspiration cytology suggestive of colloid goiter. Histopathology confirmed the cytological diagnosis with an associated incidental rare finding of papillary thyroid microcarcinoma. So the possibility of thyroid microcarcinoma should always be kept in mind while diagnosing a benign thyroid disease.

INTRODUCTION

Thyroid cancer incidence is increasing throughout the world. Most studies attribute this rise entirely to the increase in papillary carcinoma, the most common thyroid malignancy in iodine-sufficient areas. The increase is attributable to better detection of small papillary carcinomas as a result of improved diagnostic accuracy by neck ultrasound and fine-needle aspiration cytology. It is a common experience in thyroid cancer referral centres nowadays, that nearly 60%–80% of thyroid carcinomas detected are micropapillary thyroid carcinomas (<1 cm in size) which has an excellent long-term prognosis. Papillary thyroid microcarcinomas, as defined by the World Health Organization is less than 1.0 cm in size [1]. We present a rare case of colloid goiter with an associated rare incidental finding of papillary thyroid microcarcinoma.

CASE HISTORY

A 52 years male patient presented with the complaints of cystic lump over medial aspect of anterior neck of size 3x4cm and heaviness since 3 years. A clinical diagnosis of benign thyroid cyst was made and fine needle aspiration cytology (FNAC) of the lump was performed. The aspirated smear revealed benign looking follicular epithelial cells in small clusters with many foamy macrophages, in a background of blood mixed colloid. Diagnosis of colloid goiter with cystic change was made. The patient was operated for the same on cosmetic ground and the specimen was sent for histopathological examination. The histomorphological features of colloid goiter with secondary fibrous and cystic changes were seen in 4/5 sections, while 1/5 section revealed a small focus of micropapillary carcinoma (unencapsulated), measuring 5 mm in size with nuclear features of papillary carcinoma.(Figures 1 and 2) A final diagnosis of colloid goiter with cystic changes with papillary microcarcinoma was made.

DISCUSSION

Thyroid nodules constitute a diagnostic challenge mainly because of the need to exclude thyroid malignancy.

Risk factors that increase the probability of malignancy in a thyroid nodule are age under 30 or over 60 years, male sex (8% versus 4% in female), history of head and neck irradiation in childhood and family history of medullary thyroid carcinoma (MTC) or multiple endocrine neoplasia (MEN) type 2 [2,3].

Incidental diagnosis of thyroid microcarcinoma on histology of the resected thyroid following surgery for a presumably benign thyroid disease is a rare clinical scenario. It frequently remains clinically occult and is usually diagnosed as an incidental finding on histopathological examination on autopsy [4]. Roti et al have stated that 79% of the patients with microcarcinoma had classic papillary thyroid cancer and a relatively low number of follicular variant of papillary thyroid cancer [5]. The presence of a more problematic type of thyroid cancer, such as tall cell variant, was rare and these potentially more aggressive types were not responsible for the findings of local invasion or spread. Patients with incidentally noted papillary microcarcinoma (discovered on histopathology after surgery for benign thyroid disease) had a lower risk (5.2%) for tumor persistence or recurrence than the patients with non-incidental disease (10.4%). In autopsy studies, the incidence of papillary thyroid microcarcinoma has been found to range from 3-36% [4,5]. In many surgical studies conducted on patients with a presumably benign thyroid diseases, incidental foci of papillary thyroid microcarcinoma, ranged from 2-24% [6,7].

Multifocality is more commonly seen in papillary thyroid microcarcinoma and in many studies has been observed to be present in 20-46% of cases [4,5]. Most of them have a relatively benign biological behavior. The diagnosis of thyroid microcarcinoma is usually based on a combination of clinical examination, laboratory investigations and radiological techniques. However, as mentioned above, these are often clinically undetectable because of their small size and are usually detected as an incidental finding at autopsy or in specimens of thyroid removed for other reasons. The diagnosis can now often be made preoperatively because of the more frequent use and improvement of ultra-sonography and image-guided FNAC. Now a days, with the help of high resolution transducers, tumors measuring even 1 and 2 mm in diameter can be detected [8,9].

Though overall, clinical outcomes for patients with papillary thyroid carcinoma are excellent, it still remains the cause of mortality or substantial morbidity in a small subset of patients. Prognostic factors have not been well defined in thyroid papillary microcarcinoma but patients have favorable long term prognosis.

Earlier conservative treatment in the form of unilateral lobectomy was advocated for patients with papillary microcarcinoma [9]. But cases of loco-regional recurrence have been reported in 0-11% with few cases of distant metastases and deaths[9,10]. Therefore, many authors consider total/ subtotal thyroidectomy to be the treatment of choice for such carcinomas [9,10].

Figure 1. Photomicrographs showed of colloid goiter with secondary fibrous and cystic changes with a small unencapsulated focus of micropapillary carcinoma. Hematoxylin & Eosin x 10.

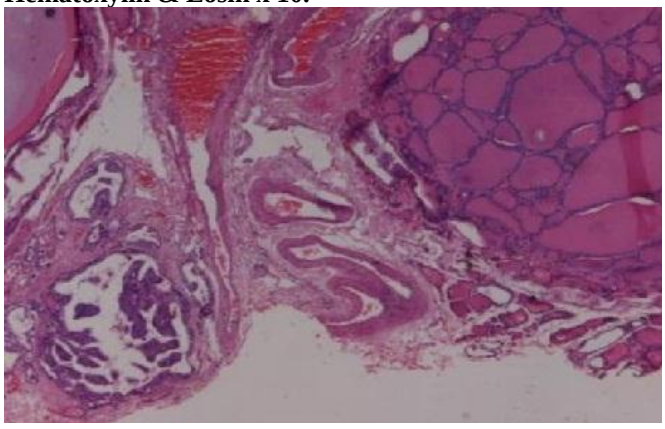
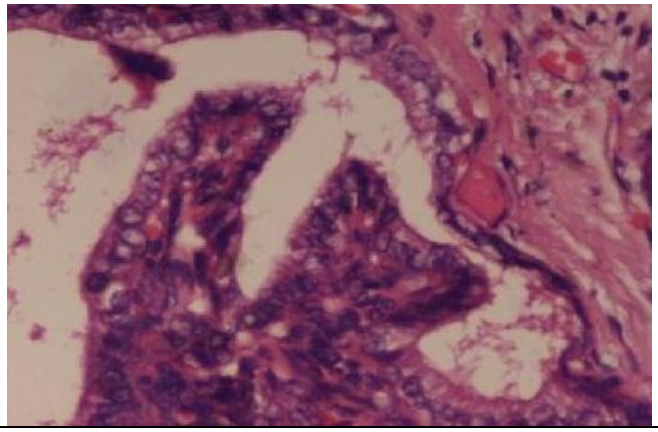


Figure 2. The foci of micropapillary carcinoma showed nuclear features of papillary carcinoma with optically clear nucleus and nuclear grooves. Hematoxylin & Eosin x 40.



CONCLUSION

The possibility of thyroid microcarcinoma should always be kept in mind while diagnosing a benign thyroid disease. In recent years, with the use of thyroid ultrasonography and other advanced neck imaging modalities including, image guided FNAC, nodules too small to be palpated and diagnosed as thyroid microcarcinoma have been increasingly reported. Although, thyroid microcarcinoma have a good prognosis with an excellent long term survival, still recurrences have been reported and even fatal outcome is possible.

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