Case Report

A case report of papillary carcinoma thyroid in 34 years old female patient

Saba Khan[1*], Meenu Rani[2]

[1]2nd year resident, [2]3rd year resident
Saraswati Institute of Medical Sciences, Anwarpur, India
[*]Corresponding author email: **sabakhandr92@gmail.com**

International Archives of Integrated Medicine, Vol. 5, Issue 3, March, 2018.

Available online at http://iaimjournal.com/
ISSN: 2394-0026 (P) **ISSN: 2394-0034 (O)**
Received on: 04-03-2018 **Accepted on:** 14-03-2018
Source of support: Nil **Conflict of interest:** None declared.
How to cite this article: Saba Khan, Meenu Rani. A case report of papillary carcinoma thyroid in 34 years old female patient. IAIM, 2018; 5(3): 124-127.

Abstract

Thyroid malignant tumors are rarely associated with hyperfunctioning thyroid. The incidence of this co-incidence is highly variable. Here we report a rare case of papillary thyroid cancer associated with hyperthyroidism with brief literature review. 34 years-old female, presented with palpitation, excess sweating and weight loss for two months duration. There was asymmetrical swelling of the neck, more on left side which moves with deglutition. The result of histopathological examination confirmed papillary thyroid carcinoma. Literature review has showed an increasing number of papers reporting the association of high level of thyroid function tests and thyroid malignancy. Although the coexistence of them is rare, thyroid malignancy should be put in the differential diagnosis of hyperthyroid goiter and we can conclude that histopathology is the gold standard for the confirm diagnosis.

Key words

Papillary thyroid carcinoma, Histopathological examination, Hyperfunctioning thyroid.

Introduction

Thyroid cancers are quite rare, accounting for only 1.5% of all cancers in adults and 3% of all cancers in children, but the rate of new cases has been increasing in the last decades [1]. During the last few years, the frequency of papillary cancer has increased, but this increase in frequency is related to an improvement in diagnostic techniques and the information campaign about this carcinoma. In daily practice, thyroid mass detected either by physical examination or by ultrasound in an individual with high thyroid function tests is suggestive for a benign condition [2]. Malignant thyroid nodules appear as cold nodules on scintigraphy and they are clinically euthyroid [3]. Hyperthyroidism associated with thyroid

carcinoma is a rare presentation [3]. Here we report a rare case of papillary thyroid carcinoma associated with hyperthyroidism with brief literature review.

Case report

34 year-old female, presented with palpitation, excess sweating and weight loss for two months duration with negative past-medical, past-surgical and family history. Clinically there was a symmetrical swelling of the neck, more on left side, mobile, non-tender with no lymph node enlargement. All the hematological and serological analysis was with in normal limit. In hormonal assay Free T3: 12.06 pmol/L, free T4: 30.1 pmol/L, TFT: less than 0.005 mIU/ml and thymoglobulin was normal. Thyroid antibodies were negative. Neck ultrasound showed features of background thyroiditis. Left lobe contained 15 × 9 × 8 mm nodule with irregular outline and multiple dots of calcification. fine needle aspiration was performed for left side of neck swelling. The results showed follicular epithelium with crowded sheets and micro-nodular formation, the oval nuclei enlarged with coarse chromatins, nuclear grooves and pseudoepithelium. Overall cytomorphological findings were suggestive of papillary carcinoma of thyroid gland (**Photograph - 1**). The patient underwent surgery and the specimen was sent to the histopathology department. The result of histopathological examination showed papillae with dense fibrovascular core, characteristic oval nuclei with grooving confirming papillary thyroid carcinoma (**Photograph - 2, 3, 4**).

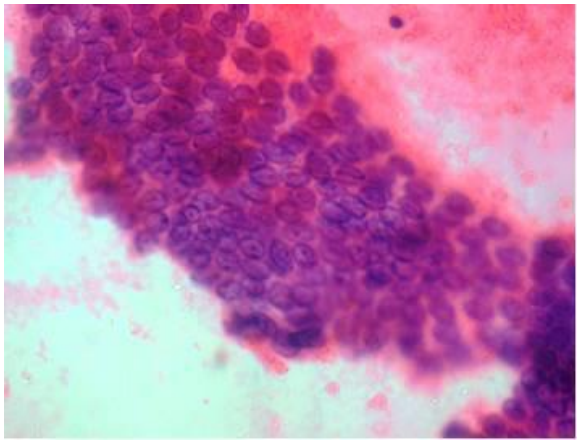
Discussion

Papillary carcinoma is a relatively common well differentiated thyroid cancer. Papillary carcinoma may be considered a variant of mixed form thyroid carcinoma. Despite its well-differentiated characteristics, papillary carcinoma may be overtly or minimally invasive [4]. In fact, these tumors may spread easily to other organs. Papillary tumors have a propensity to invade lymphatics but are less likely to invade blood vessels [5]. Papillary carcinoma typically arises as an irregular, solid or cystic mass that arises from otherwise normal thyroid tissue. Thyroid cancers are more often found in patients with a history of low- or high-dose external irradiation [6]. Papillary tumors of the thyroid are the most common form of thyroid cancer to result from exposure to radiation. The life expectancy of patients with this cancer is related to their age [7-9]. Patients with hyperthyroidism used to be regarded as having low risk for a thyroid cancer. Literature review has showed an increasing number of papers reporting the association of high level of thyroid function tests and thyroid malignancy [2, 3, 10, 11]. Gabriele, et al. showed 7 patients of thyroid cancer among 425 hyperthyroid patients. Five of them were papillary carcinoma and the other 2 were follicular carcinoma. None of Graves' patients (15%) had thyroid malignancy [12]. Papillary thyroid carcinomas are subtypes of thyroid cancers which are slow growing tumors and are associated with a favorable prognosis except when they present with distant metastasis [13]. Lung and bone are the two most favored sites of metastasis [14]. Bone metastases from papillary thyroid carcinomas tend to be multiple and more often to the ribs, vertebrae and sternum [15]. The cause of high level of TH in thyroid malignancy is thought to be due to an active mutation of the gene of TH receptor [16]. Niepomniszcze and colleagues found that a combination of TSH receptor mutations and Ki-RAS was the main etiological factor for hyperfunction of the thyroid malignancy. According to the literature, thyroid malignant tumors are rarely associated with hyperfunctioning thyroid. The incidence of this co-incidence is highly variable reported to be as low as 0.15% [10]. In our case we had diagnosed papillary carcinoma with hyperfunctioning thyroid which was quite rare.

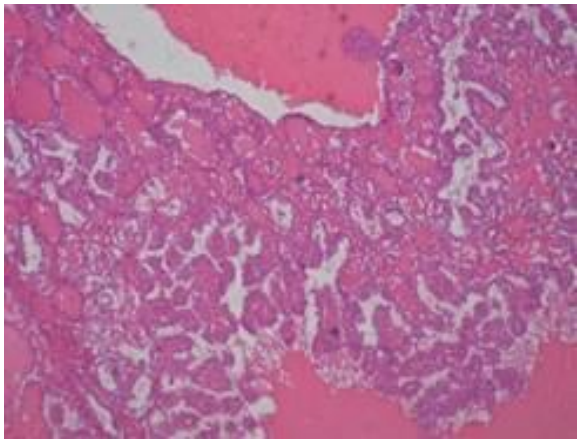
Although the coexistence of them is rare, thyroid malignancy should be put in the differential diagnosis of Graves' disease and hyperthyroid goiter. Thorough history and physical examination should be done and necessary investigation should be sent in order not to miss

the association of papillary carcinoma and hyperfunctioning thyroid gland.

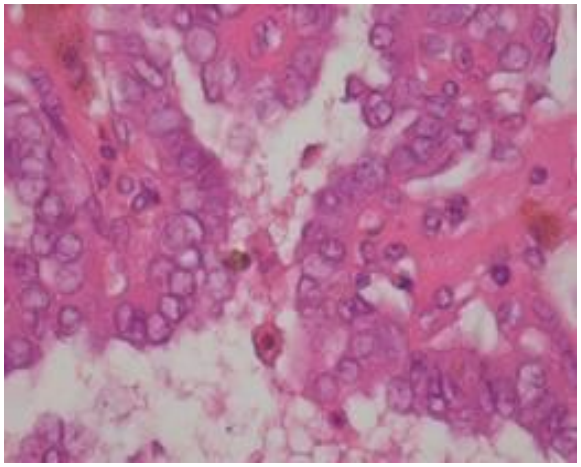
Photograph – 1: Follicular epithelium with crowded sheets and nuclear grooves (H&E stain, 40X).



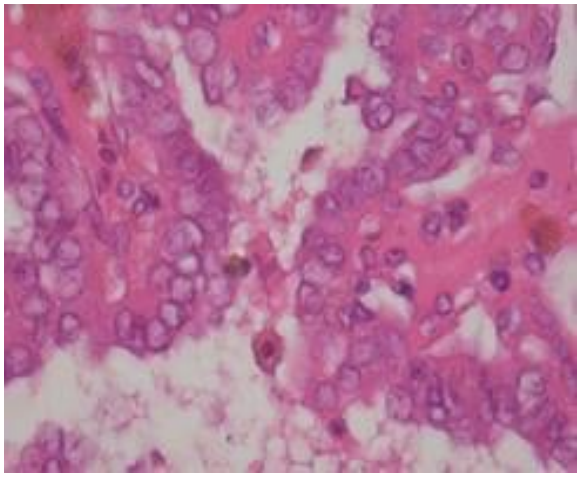
Photograph – 2: Branching papillae in thyroid gland (H&E stain, 10X).



Photograph – 3: Papillae with dense fibrovascular core (H&E stain, 40X).



Photograph – 4: Cuboidal epithelial cells with ground glass nuclei (H&E stain, 40X).



References

1. Nagamine Y, Suzuki J, Katakura R, Yoshimoto T, Matoba N, Takaya K. Skull metastasis of thyroid carcinoma: Study of 12 cases. J Neurosurg., 1985; 63: 526-531
2. Kim, et al. Ultra sonographic screening for detection of thyroid cancer in patients with Graves' disease. Clin. Endocrinol. (Oxf.), 2004; 60(6): 719–725.
3. Manmadharao, et al. A rare case of papillary carcinoma of thyroid with hyperthyroidism. J. Evol. Med. Dent. Sci., 2015; 4(10): 1694–1698.
4. Wada N, Sugino K, Mimura T, Nagahama M, Kitagawa W, Shibuya H, Ohkuwa K, Nakayama H, Hirakawa S, Yukawa N, Rino Y, Masuda M, Ito K. Treatment strategy of papillary thyroid carcinoma in children and adolescents: clinical significance of the initial nodal manifestation. Ann Surg Oncol., 2009; 16: 3442-3449.
5. Clayman GL, Shellenberger TD, Ginsberg LE, Edeiken BS, El-Naggar AK, Sellin RV, Waguespack SG, Roberts DB, Mishra A, Sherman SI. Approach and safety of comprehensive central compartment dissection in patients with recurrent papillary thyroid carcinoma. Head Neck, 2009; 31: 1152-1163.
6. Rosenbaum MA, McHenry CR. Contemporary management of papillary

carcinoma of the thyroid gland. Expert Rev Anticancer Ther., 2009; 9: 317-329.
7. Pelizzo MR, Merante Boschin I, Toniato A, Pagetta C, Casal Ide E, Mian C, Rubello D. Diagnosis, treatment, prognostic factors and long-term outcome in papillary thyroid carcinoma. Minerva Endocrinol., 2008; 33: 359-379.
8. Thyroid Carcinoma Task Force. AACE/AAES Medical/ Surgical Guidelines for Clinical Practice: Management of Thyroid Carcinoma. Accessed December 16, 2009. AACE Guidelines.
9. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology. Thyroid carcinoma. National Comprehensive Cancer Network. Accessed December 16, 2009.
10. Girelli, et al. Severe hyperthyroidism due to metastatic papillary thyroid carcinoma with favorable outcome. J. Endocrinol. Invest., 1990; 13: 333–337.
11. Zaid, et al. Thyroid papillary carcinoma in a patient with hyperthyroidism: a case report and review of literature. JKAU: Med. Sci., 2013; 20 (1): 113–119.
12. Gabriele, et al. Thyroid cancer in patients with hyperthyroidism. Horm. Res., 2003; 60(2): 79–83.
13. Cobin RH, Gharib H, Bergman DA, Clark OH, Cooper DS, Daniels GH, Dickey RA, Duick DS, Garber JR, Hay ID, Kukora JS, Lando HM, Schorr AB, Zeiger MA. AACE/AAES medical/surgical guidelines for clinical practice: management of thyroid carcinoma. American Association of Clinical Endocrinologists. American College of Endocrinology. Endocr Pract., 2001; **7**: 202-220.
14. Schlumberger M, Tubiana M, De Vathaire F, Hill C, Gardet P, Travagli JP, Fragu P, Lumbroso J, Caillou B, Parmentier C. Long-term results of treatment of 283 patients with lung and bone metastases from differentiated thyroid carcinoma. J Clin Endocrinol Metab., 1986; 63: 960-967.
15. Zettinig G, Fueger BJ, Passler C, Kaserer K, Pirich C, Dudczak R, Niederle B. Long-term follow-up of patients with bone metastases from differentiated thyroid carcinoma surgery or conventional therapy? Clin Endocrinol (Oxf), 2002; 56: 377-382.
16. H. Gozu, et al. Arg thyrotropin receptor mutation causes an autonomously functioning papillary carcinoma? Thyroid, 2004; 14(11): 975–980.