

ORIGINAL ARTICLE

Assessment of cases of Papillary Thyroid Microcarcinomas- A clinico- pathological study

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ABSTRACT:

Background: Thyroid carcinomas are the most common endocrine carcinoma. The present study was conducted to detect incidence of papillary thyroid microcarcinomas in patients visiting department. **Materials & Methods:** The present study was conducted on 126 cases of both genders reported to the department. Preoperative clinical diagnoses, FNAC diagnoses, operative procedure, and histopathological findings were recorded. Specimens were diagnosed based of histopathological examination. **Results:** Out of 126 patients, males were 52 and females were 74. Out of 126 specimens of thyroid carcinoma, 14 (11.2%) cases were of papillary thyroid microcarcinoma. Tumor was seen in left lobe in 7, right lobe in 4, bilateral in 2 and multifocal in 1. Treatment given was total thyroidectomy in 12, subtotal thyroidectomy in 1 and radioactive iodine (RAI) in 1 case. The difference was significant ($P < 0.05$). **Conclusion:** The incidence of papillary thyroid microcarcinoma was 11.2%.

Key words: Thyroid, Thyroidectomy, Papillary microcarcinoma

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INTRODUCTION

Thyroid carcinomas are the most common endocrine carcinoma and comprise 90% of all endocrine malignancies. The frequency of incidental thyroid carcinomas has been gradually increasing recently.¹ In thyroid surgery, more frequent bilateral total excisions of the thyroid gland and detailed histopathological examinations of thyroid tissue are thought to be among the reasons for the recent increase. The prevalence of incidental papillary thyroid microcarcinomas (IPTMs) is reported to be 7.1%–16.3%.²

Thyroid cancer is relatively uncommon compared to other cancers. In the United States it is estimated that in 2016 approximately 64,000 new patients will be diagnosed with thyroid cancer, compared to over 240,000 patients with breast cancer and 135,000 patients with colon cancer.

However, fewer than 2000 patients die of thyroid cancer each year. In 2013, the last year for which statistics are available, over 630,000 patients were living with thyroid cancer in the United States.³

Papillary microcarcinoma is the most common type of incidental thyroid carcinoma. The tumor is called “papillary

thyroid microcarcinoma” (PTM) if it is 1 cm or smaller. The majority of PTMs are detected incidentally during histopathological examinations for benign thyroid disease. The incidence of thyroid carcinoma in multinodular goiter (MNG) cases is reported to be 7.5%–13%.⁴ The present study was conducted to detect incidence of papillary thyroid microcarcinomas in patients visiting department.

MATERIALS & METHODS

The present study was conducted in the department of general pathology. It comprised of 126 cases of both genders reported to the department. All were informed regarding the study. Ethical approval was obtained from institute prior to the study.

General information such as name, age, gender etc. was recorded. Preoperative clinical diagnoses, FNAC diagnoses, operative procedure, and histopathological findings were recorded. Specimens were diagnosed based of histopathological examination. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

	Total- 126	
Gender	Males	Females
Number	52	74

Table I shows that out of 126 patients, males were 52 and females were 74.

Table II Prevalence of papillary thyroid microcarcinoma

Total cases	Papillary thyroid microcarcinoma	%
126	14	11.2

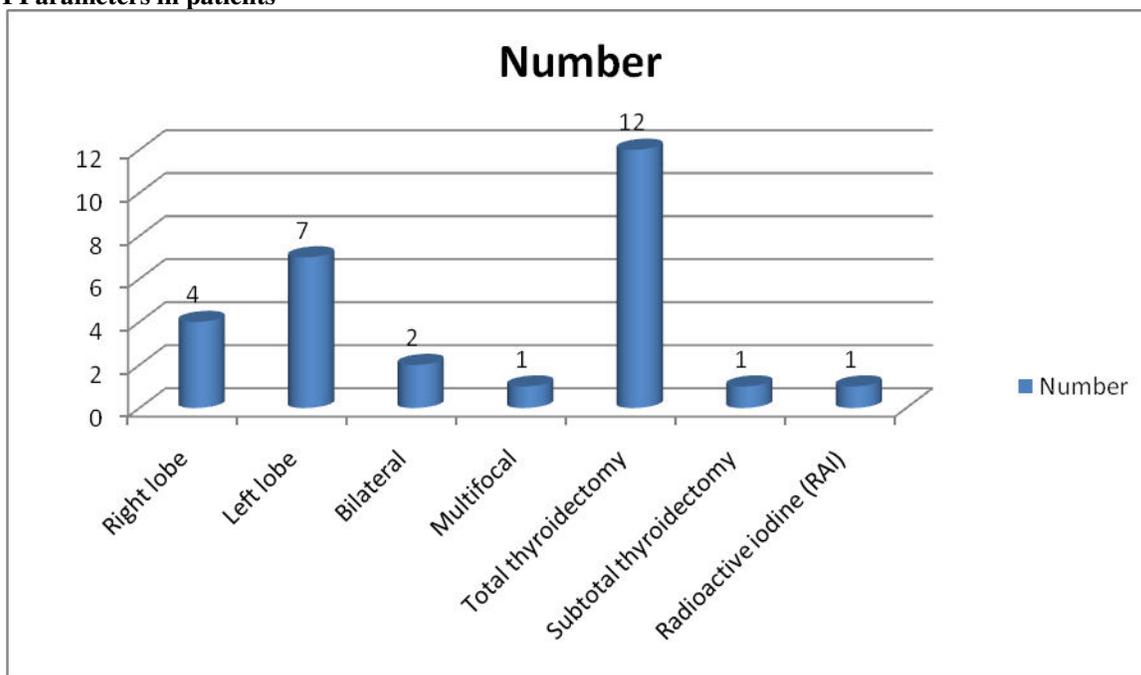
Table II shows that out of 126 specimens of thyroid carcinoma, 14 (11.2%) cases were of papillary thyroid microcarcinoma.

Table III Parameters in patients

Tumor localization	Number	P value
Right lobe	4	0.01
Left lobe	7	
Bilateral	2	
Multifocal	1	
Total thyroidectomy	12	0.021
Subtotal thyroidectomy	1	
Radioactive iodine (RAI)	1	

Table III, graph I shows that tumor was seen in left lobe in 7, right lobe in 4, bilateral in 2 and multifocal in 1. Treatment given was total thyroidectomy in 12, subtotal thyroidectomy in 1 and radioactive iodine (RAI) in 1 case. The difference was significant ($P < 0.05$).

Graph I Parameters in patients



DISCUSSION

Thyroid cancer often presents as a lump or nodule in the thyroid and usually does not cause any symptoms. Blood tests generally do not help to find thyroid cancer and thyroid blood tests such as TSH are usually normal, even when a cancer is present. Neck examination by your doctor is a common way in which thyroid nodules and thyroid cancer are found.⁵ Often, thyroid nodules are discovered incidentally on imaging tests like CT scans and neck ultrasound done for completely unrelated reasons. Occasionally, patients themselves find thyroid nodules by

noticing a lump in their neck while looking in a mirror, buttoning their collar, or fastening a necklace. Rarely, thyroid cancers and nodules may cause symptoms. In these cases, patients may complain of pain in the neck, jaw, or ear. If a nodule is large enough to compress the windpipe or esophagus, it may cause difficulty with breathing, swallowing, or cause a “tickle in the throat”.⁶ Papillary thyroid cancer is the most common type, making up about 70% to 80% of all thyroid cancers. Papillary thyroid cancer can occur at any age. It tends to grow slowly and often spreads to lymph nodes in the neck. However,

unlike many other cancers, papillary cancer has a generally excellent outlook, even if there is spread to the lymph nodes.⁷ The present study was conducted to detect incidence of papillary thyroid microcarcinomas in patients visiting department.

In present study, out of 126 patients, males were 52 and females were 74. Out of 126 specimens of thyroid carcinoma, 14 (11.2%) cases were of papillary thyroid microcarcinoma.

Slijepcevic et al⁸ conducted a study on 827 patients who underwent thyroidectomy. Of the 827 patients, 138 (16.6%) were diagnosed with a malignancy. Of these, 124 were papillary carcinoma, 5 were follicular carcinoma, 4 were lymphoma, 2 were medullary carcinoma, 2 were anaplastic carcinoma, and 1 was poorly differentiated carcinoma. The IPTM incidence rate was 8.01%; the multifocality and bilaterality rates were 23.3% and 13.3%, respectively. In 98.3% of IPTM cases, total thyroidectomies were performed, and in 1.7% of cases, subtotal thyroidectomy was performed followed by complementary thyroidectomy. No relapse or metastasis was detected in any of these cases. We found that tumor was seen in left lobe in 7, right lobe in 4, bilateral in 2 and multifocal in 1. Treatment given was total thyroidectomy in 12, subtotal thyroidectomy in 1 and radioactive iodine (RAI) in 1 case. Vasileiadis et al⁹ conducted a study in which a total of 2236 patients who underwent total thyroidectomy from 2001 to 2009 were reviewed retrospectively. Papillary carcinoma was diagnosed in 583 patients. Of these, 339 patients with PTMC were included in the study. Clinicopathological features were evaluated by univariate and multivariate analysis. The prevalence of incidental PTMC was 12% of all patients who underwent surgery for thyroid disease. Univariate analysis showed that bilaterality, autoimmune thyroid disease, size of tumor >5 mm, multifocality, lymph node metastasis, and capsule invasion were significantly associated with nonincidental PTMC. The incidence of lymph node metastasis in incidental PTMC was 5% versus 33% in non-incidental, suggesting that the biological behavior may be different in the 2 categories.

CONCLUSION

Authors found that the incidence of papillary thyroid microcarcinoma was 11.2%.

REFERENCES

1. Sipos.J.A, Mazzaferri. Thyroid cancer epidemiology and prognostic variables. *Clin Oncol* 2010;22:395-404.
2. Neuhold N, Schultheis A, Hermann M, Krotla G, Koperek O, Birner P. Incidental papillary microcarcinoma of the thyroid – Further evidence of a very low malignant potential: A retrospective clinicopathological study with up to 30 years of follow-up. *Ann Surg Oncol* 2011;18:3430-36.
3. Bastholt L, Overgaard J, Trolle W, Pedersen HB. Papillary thyroid microcarcinoma in Denmark 1996–2008: A national study of epidemiology and clinical significance. *Thyroid* 2013;23:1159-64.
4. Abdelshaheed F. Total thyroidectomy for clinically benign thyroid disease: A preferred option with capsular dissection technique. *Egypt J Surg* 2006;25:149-53.
5. Dunki-Jacobs E, Grannan K, McDonough S, Engel AM. Clinically unsuspected papillary microcarcinomas of the thyroid: A common finding with favorable biology? *Am J Surg* 2012;203:140-4.
6. Sakorafas G, Stafyla V, Kolettis T, Tolumis G, Kassaras G, Peros G. Microscopic papillary thyroid cancer as an incidental finding in patients treated surgically for presumably benign thyroid disease. *J Postgrad Med* 2007;53:23-6.
7. El-Foll HA, El-Sebaey HI, El-Kased AF, Hendawy A, Kamel MM. Pattern and distribution of lymph node metastases in papillary thyroid cancer. *J Clin Exp Pathol* 2015;5:204.
8. Slijepcevic N, Zivaljevic V, Marinkovic J, Sipetic S, Diklic A and Paunovic I. Retrospective evaluation of the incidental finding of 403 papillary thyroid microcarcinomas in 2466 patients undergoing thyroid surgery for presumed benign thyroid disease. *BMC Cancer* 2015;15:330.
9. Vasileiadis I, Karatzas T, Vasileiadis D, Kapetanakis S, Charitoudis G, Karakostas E, *et al*. Clinical and pathological characteristics of incidental and nonincidental papillary thyroid microcarcinoma in 339 patients. *Head Neck* 2014;36:564-70.