



THYROID MALIGNANCY(TM) : AN OBSERVATIONAL AND ANALYTICAL STUDY

Dr. Nitin H Patil

Assistant Prof. Department of Surgery Krishna Institute of Medical Sciences,
Krishna Vishwa Vidyapeeth
“Deemed To Be University”, Karad – 415110, Maharashtra

Dr. Yogesh P Nikam

Assistant Prof. Department of Surgery Krishna Institute of Medical Sciences,
Krishna Vishwa Vidyapeeth
“Deemed To Be University”, Karad – 415110, Maharashtra

ABSTRACT

Studies have shown that the thyroid is a unique endocrine organ with a broad range of disorders, from immunologically caused enlargements to functional enlargements to benign lesions to malignant enlargements. With quick and proper treatment, studies have shown therapeutic effectiveness. FNAC has been shown to be the most recommended test for thyroid cancer detection and treatment. Therefore, our study studied TM frequency. In addition, our study showed that most TM diagnoses were in the 41–50 age range, and swelling ranged from one to five years. Out of which unilateral swelling was the most common type. Cancer was found to be 14.29% and noncancerous 85.71%, of which PTC was most common. Hence, TM was observed as the most common clinical symptom.

Keywords: TM, FNAC, diagnoses, frequency, noncancerous, PTC.

INTRODUCTION

Studies have shown that the thyroid gland is a unique endocrine organ with a wide range of disorders, from immunologically induced enlargements to functional enlargements to benign lesions to malignant enlargements. These lesions may first present as nodules within a background of generalized edema. Single or both sides, with or without a functional alteration. Lymph node metastases from papillary thyroid cancer may present in an asymptomatic state until a highly advanced stage of the disease. In very rare cases, patients may present with detectable metastatic illness in the absence of an obviously detectable primary (hidden or concealed malignancy of the thyroid).^{1,2,3,4} However, studies have proven that to achieve therapeutic success, prompt and appropriate management is essential. Further, studies have shown that fine needle aspiration cytology (FNAC) has now become the most preferred investigation, which helps in evaluation and subsequent management in all aspects of thyroid cancer therapy. Thus, the aim of our study was to evaluate the occurrence of TM.

AIM

The aim of the study was to evaluate the occurrence of malignancy in thyroid swellings.

INCLUSION CRITERIA

All new patients with palpable TM coming to KH, Karad.

EXCLUSION CRITERIA

1. Previously operated patients for TM.
2. Patients with deranged Thyroid Function Test.

MATERIAL & METHOD

TYPE OF STUDY :Our study was an observational analytical type of study.

STUDY DURATION:Our study was conducted for around 18 months in total.

SOURCE OF DATA : Our study was conducted in Department of Surgery , Krishna Hospital.

SOURCE OF DATA:All those patients who are admitted in wards under Dept. Of Surgery, KH having TM were included in our study.

SAMPLE SIZE: In our study we have taken in total 70 patients of TM.

INVESTIGATION

1. All Routine Pre-Anaesthetic Investigation
2. Serology for HIV, HbsAg , HCV
3. X-ray of Neck
4. Ultrasonographic Evaluation
5. Using an ultrasound scan fitted with a hand held 10-12 MHz linear transuder.
6. FNAC
7. Histopathology
8. TFT
9. Written informed consent, FNA of palpable cervical Lymph nodule.

STASTICAL ANALYSIS

In our study, patients socio-demographic profiles, clinical histories, and general and systemic examination results were documented with the help of a semi-structured, pre-validated standard case record proforma. With the help of a macro, the data was input into Microsoft Excel. To do a frequency analysis, the data was organized into tables and figures. The frequency distributions are analyzed with the help of SPSS version 22.

RESULT

GENDER-WISE

Gender wise distribution	No of Subjects	Percentage
MALE	40	57.14
FEMALE	30	42.86
TOTAL	70	100.00

TABLE 1: GENDER WISE DISTRIBUTION.

In our study , we have found that, male patients (57.14%) & females were around (42.86%) in total for our investigation.

AGE

AGE GROUP	NUMBER OF SUBJECTS	PERCENTAGE
Less than 40	10	14.29
41 to 50	16	22.86
51 to 60	22	31.43
61 to 70	16	22.86
More than 71	6	8.57
Total	70	100.00

TABLE 2 : AGE DISTRIBUTION.

In our study finding we got to know that , majority of the patients were belonging to 51 to 60 years of age group which was followed by 41 to 50 years & 61 to 70 years with 22.86 respectively.

GRADES OF SWELLING

GRADES OF SWELLING	NUMBER OF SUBJECTS	PERCENTAGE
Grade I	13	18.57
Grade II	32	45.71
Grade III	25	35.71
Total	70	100.00

TABLE 3: GRADES OF SWELLING.

In our study we have found that, majority of patients presented with grade II upto (45.71%) followed by grade III among 35.71% which was followed by grade I among 18.57 %.

DUARTION OF SWELLING

DURATION OF SWELLING	NUMBER OF SUBJECTS	PERCENTAGE
Less than 1 year	10	14.29
1 to 5 years	29	41.43
6 to 10 years	19	27.14

More than 11 years	12	17.14
Total	70	100.00

TABLE 4: DURATION OF SWELLING.

In our study we have found that, majority of duration were seen 1 to 5 years upto 41.43% which was followed by 6 to 20 years upto 27.14% then more than 11 years upto 17.14%.

CLINICAL PRESENTATION

COMPLAINTS	NUMBER OF SUBJECTS	PERCENTAGE
Unilateral swelling	38	54.29
Diffuse swelling	19	27.14
Nodular swelling	13	18.57
Total	70	100

TABLE 4: CLINICAL PRESENTATION.

In our study we have found that ,majority of patients were having unilateral swelling upto 54.29% which was followed by diffuse swelling upto 27.14% then nodular swelling upto 18.57%.

DIAGNOSIS

DIAGNOSIS		NUMBER OF SUBJECTS	PERCENTAGE
Malignant	Follicular carcinoma(FC)	3	4.29
	Papillary carcinoma of thyroid(PCT)	5	7.14
	Medullary carcinoma of thyroid(MCT)	2	2.86
Benign swellings of thyroid gland	Colloid cyst(CC)	4	5.71
	MNG	20	28.57
	Colloid goiter(CG)	18	25.71
	Follicular adenoma(FA)	4	5.71
	Hemorrhagic cyst of multinodular goiter(HCNG)	2	2.86
	Nodular goiter(NG)	12	17.14
Total		70	100.00

TABLE 5: DIAGNOSIS.

In our study we have found that, both swellings i.e. malignant & benign was found in our investigation. Among malignant once, majority were PCT upto 7.14% which was followed by DC upto 4.29% then MCT upto 2.86% in patients. Among benign , majority showed Multinodular goiter (MNG) upto 28.57% followed by CG upto 25.71 % then NG upto 17.14% further CC , FA upto 5.71 % respectively finally HCNG with 2.86% in patients.

DISCUSSION

Thyroid removal is the most common kind of endocrine surgery performed worldwide. It wfinvention of sophisticated surgical equipment, and the development of antiseptic procedures.

GENDER

GENDER WISE DISTRIBUTION	M:F RATIO
Our study	1.3:1
Dos Santos Silva et al ⁵	3:1
Dorairajan ⁶	1:9
Gupta et al ⁷	1:5

TABLE 6: GENDER ANALYSIS WITH PAST STUDIES.

In our study , males were upto 57.14% & females were upto 42.86% .

AGE

Age group	Present study	Dave RI et al ⁸	Bansali et al ⁹	Raniwala et al ¹⁰
Less than 40	14.29			8.16
41 to 50	22.86			61.22
51 to 60	31.43	Commonest affected age group	Commonest affected age group	44.90
61 to 70	22.86			8.16
More than 71	8.57			--

TABLE 7: AGE ANALYSIS WITH PAST STUDIES.

In our study, majority of patients were from 51 to 60 years of age group which was followed by 41 to 50 years then 61 to 70 years upto 22.86% respectively.

GRADE OF SWELLING

Grades of swelling	Present study	Raniwala et al ¹⁰
Grade I	18.57	16.67

Grade II	45.71	36.67
Grade III	35.71	46.67
Total	100.00	100

TABLE 8: GRADE OF SWELLING.

In our study ,we have found that majority of patients were grade II follwed by grade III pto 35.71% then 18.57% with grade I.

DURATION OF SWELLING

Duration of swelling	Present study	Subhash N Halbhavi¹¹	Raniwala et al¹⁰
Less than 1 year	14.29		34.69
1 to 5 years	41.43	Maximum in more than 4 years	61.22
6 to 10 years	27.14		20.41
More than 11 years	17.14		6.12
Total	100.00		--

TABLE 9 :DURATION OF SWELLING.

In our study, majority of patients with swelling were between 1 to 5 years followed by 6 to 20 years with 27.14% then 17.14% with more than 11 years.

CLINICAL PRESENTATION

Diagnosis		Percentage	Simon et al¹²	Scott et al¹³
Malignant	Follicular carcinoma	30	27.2	81
	Papillary carcinoma of thyroid	50	66.4	13.6
	Medullary carcinoma of thyroid	20	2.8	3.2

TABLE 10 : CLINICAL PRESENTATION.

In our study we have found that , among malignant swelling , majority were PCT upto 7.14% followed by FC upto 4.29% then MCT upto 2.86% .

CONCLUSION

The study revealed that a significant proportion of individuals diagnosed with TM fell within the age range of 41 to 50 years. The duration of the swelling was observed to range from one to five years. Unilateral swelling was found to be the most prevalent type of swelling. Additionally, it was discovered that the rate of malignancy was 14.29%, while the remaining 85.71% of cases were determined to be noncancerous. PTC was found to be the most prevalent type, followed by FC and MC. In contrast, TM was observed as the predominant clinical manifestation and exhibited a higher prevalence compared to the reference study. Consequently, the distribution of thyroid cancer's distinct histological subtypes aligns with the findings reported in the existing literature.

REFERENCE

1. Kochupillai N. Clinical endocrinology in India. *Current science*. 2000 Oct 25;79(8):1061-7.
2. Stsjazhko VA, Tsyb AF, Tronko ND, Souchkevitch G, Baverstock KF. Childhood thyroid cancer since accident at Chernobyl. *BMJ: British Medical Journal*. 1995 Mar 3;310(6982):801.
3. Brenner AV, Tronko MD, Hatch M, Bogdanova TI, Oliynik VA, Lubin JH, Zablotska LB, Tereschenko VP, McConnell RJ, Zamotaeva GA, O’Kane P. I-131 dose response for incident thyroid cancers in Ukraine related to the Chornobyl accident. *Environmental health perspectives*. 2011 Jul 1;119(7):933-9.
4. Huque SN, Ali MI, Huq MM, Rumi SN, Sattar MA, Khan AM. Histopathological pattern of malignancy in solitary thyroid nodule. *Bangladesh Journal of Otorhinolaryngology*. 2012 Apr 20;18(1):5-10.
5. Silva ID, Swerdlow AJ. Sex differences in the risks of hormone-dependent cancers. *American journal of epidemiology*. 1993 Jul 1;138(1):10-28.
6. Dorairajan N, Jayashree N. Solitary nodule of the thyroid and the role of fine needle aspiration cytology in diagnosis. *Journal of the Indian Medical Association*. 1996 Feb 1;94(2):50-2.
7. Sengupta A, Pal R, Kar S, Zaman FA, Sengupta S, Pal S. Fine needle aspiration cytology as the primary diagnostic tool in thyroid enlargement. *Journal of natural science, biology, and medicine*. 2011 Jan;2(1):113.
8. Dave RI, Patel DD. Carcinoma of thyroid-A review of 80 cases. *Indian J Surg*. 1983:656-3.
9. Bhansali SK, Chibber PC, Deshpande D, Satoskar RS. Management of thyroid carcinoma. Experience with 52 cases. *Indian J Surg*. 1979;41:665-76.
10. Raniwala A, Wagh DD, Dixit-Shukla A, Shrikhande N, Padmawar M. Study and correlation of clinical, radiological, cytological, and histopathological findings in the diagnosis of thyroid swellings. *Journal of Datta Meghe Institute of Medical Sciences University*. 2017 Apr 1;12(2):138.

11. Halbhavi SN, Ganjigatti M, Kuntoji SB, Karikazi MA. Clinicopathological study of thyroid swellings in HSK hospital in Karnataka, India. *International Surgery Journal*. 2018 Jan 25;5(2):420-5.
12. Hölzer S, Reiners C, Mann K, Bamberg M, Rothmund M, Dudeck J, Stewart AK, Hundahl SA, US and German Thyroid Cancer Group. Patterns of care for patients with primary differentiated carcinoma of the thyroid gland treated in Germany during 1996. *Cancer*. 2000 Jul 1;89(1):192-201.
13. Hundahl SA, Cady B, Cunningham MP, Mazzaferri E, McKee RF, Rosai J, Shah JP, Fremgen AM, Stewart AK, Hölzer S, US and German Thyroid Cancer Study Group. Initial results from a prospective cohort study of 5583 cases of thyroid carcinoma treated in the United States during 1996: an American college of surgeons commission on cancer patient care evaluation study. *Cancer*. 2000 Jul 1;89(1):202-17.