

A Prospective Observational Clinicopathological Study on Multinodular Goiter in A Tertiary Care, Academic Institution.

¹Dr. K.Kesavalingam, ²Dr. T. Karthikeyan, ³Dr. S.S. Meera Senior,
⁴Dr. JithuGeorge, ⁵DR. Venkateshwar

^{1,2,3}Associate professor, ^{4,5} Junior Resident

Surgical unit III, Dept. of General Surgery, GMK medical college hospital, Salem, Tamil Nadu – affiliated to
The TN Dr. M.G.R. Medical University.

Corresponding Author: Dr.T.Karthikeyan M.S,

Abstract: Goitre being one of the most common neck swelling we encounter in surgical practice, our tertiary care, academic institution conducted a prospective observational study on clinicopathological aspects of multinodular goiter and the results were tabulated. Our study concludes that FNAC is must in all cases of multinodular goiter and a sincere clinical suspicious malignancy is a must in all cases of multinodular goiter.

Keywords: Multinodular goiter.

Date of Submission: 13 -10-2017

Date of acceptance: 27-10-2017

I. Introduction

Thyroid is an endocrine gland whose main function is regulation of the basal metabolic rate and stimulation of somatic and psychic growth. Goitre is one of the most common neck swellings we encounter in surgical practice Multinodular goiter is defined as palpable multiple discrete nodules in the enlarged thyroid gland. Our department of general surgery in this tertiary care academic institution planned for a clinicopathological prospective observational study on multinodular goiter in 50 patients followed for a period of 2 years.

II. Aim

To study the clinicopathological features of multinodular goiter in our tertiary care academic institution GMK Medical College Hospital, Salem.

III. Materials And Methods

Study type : Observational

Study design : Non randomized prospective study

Study group : Over 2 years, 50 patients with multinodular goiter attending the general surgery department of GMK Medical College hospital, Salem were considered as data source. Individuals who fulfilled the inclusive and exclusive criteria were enrolled in the study.

Inclusion criteria :

1. Age : of any age
2. Sex : Both males and females.
3. Multinodular goiter

Exclusion criteria :

1. Not willing to give consent.
2. Hypothyroidism

IV. Study Method Instituted

Patients of any age group, presenting to the general surgery OP department with multinodular goiter were included in the study. Clinical, radiological, biochemical and histological assessment were done in all 50 patients. FNAC, Ultrasound scan neck, indirect laryngoscopy and CT neck(in selective cases) were done. After bringing the patient to euthyroid state, total thyroidectomy was planned in all 50 cases and specimens were sent for histopathological evaluation. Results were tabulated and analyzed as per statistical package.

Ethical clearance :

Obtained from institutional Ethical Committee

V. Results

Table No. 1 Symptoms complained during admission by the study group

Complaints		Frequency	Percentage (%)
Pain	Present	6	12
	Absent	44	88
	Total	50	100
Difficulty in breathing	Present	3	6
	Absent	47	94
	Total	50	100
Difficulty in swallowing	Present	7	14
	Absent	43	86
	Total	50	100
Toxic symptoms	Present	16	32
	Absent	34	68
	Total	50	100
Any of the symptoms	Present	25	50
	Absent	25	50
	Total	50	100

From the above table showing complaints of the patients at the time of diagnosis, it can be seen that more than one tenth (12%) of the patients complained of pain, 6% of difficulty in breathing, 14% difficulty in swallowing while 32% complained of toxic symptoms.

Table 2 : Thyroid profile of the study population :

Blood TSH	Frequency	Percentage
Decreased	16	32
Normal	34	68
Total	50	100

More than 2/3rd (68%) patients have normal TSH

Table 3; FNAC report of all the patients

S.No.	Pathological impression	Frequency	Percentage
1.	Colloid goiter	23	46
2.	Colloid nodular goiter	15	30
3.	Multinodular goiter	3	6
4.	Follicular neoplasm	3	6
5.	Hashimoto thyroiditis	5	10
6.	Papillary carcinoma	1	2
	Total	50	100

All the above patients underwent total thyroidectomy

Table : 4 Complications associated with the surgery experienced by the study group in post operative period :

Complications	Frequency	Percentage
Absent	46	92
Present	4	8
Total	50	100

No complications associated with surgery are reported in 92% patient while in some (8%), recurrent laryngeal nerve palsy and or tetany were reported in postoperative and was appropriately treated.

Table : 5Histopathological examination report (HPE) of the patients

HPE report		Frequency	Percentage
Benign	MNG	44	88
	Follicular adenoma	1	2
Malignant	Follicular carcinoma	1	2
	Papillary carcinoma	4	8
Total		50	100

Benign nature of the disease was reported in 90% patients while 10% reported malignant nature of swelling

Table : 6 Comparison of variables against HPE type of MNG

A. Gender versus HPE :

Gender	Benign	Malignant	Total	p value
Male	6 100.0 13.3	0 00 0.0	6 100.0 12.0	1.00
Female	39 88.6 86.7	5 11.4 100.0	44 100.0 88.0	
Total	45 90.0 100.0	5 10.0 100.0	50 100.0 100.0	

While 88.6% of benign neoplasm were observed among females, all (100%) malignant neoplasm were seen only in females. The association between gender and type of MNG swelling was not found to be satisfactory significant.

B. Age category versus HPE type of MNG

Gender	Benign	Malignant	Total	P-value
Adolescent	100.0 2.2	0 0.0 0.0	1 100.0 2.0	0.763
Adult	25 86.2 55.6	4 13.8 80.0	29 100.0 58.0	
Elders	18 94.7 40.0	1 5.3 20.0	19 100.0 38.0	
Old age	1 100.0 2.2	0 0.0 0.0	1 100.0 2.0	
Total	45 90.0 100.0	5 10.0 100.0	50 100.0 100.0	

The adults and elders in the age group between 20yrs and 65 yrs reported malignancy while benign nature was seen in adolescents and very old age (2.2%)

VI. Discussion

Thyroid nodules have been reported in about 4 to 7% of population on clinical examination and in 30-50% of population on ultrasonography(2). It has also been proved that 50.5% of solitary nodules felt on palpation are actually a part of MNG (1). The incidence of carcinoma in MNG is statistically significant. So, apart from clinical examination, FNAC should be compulsorily performed to detect the occult malignancy. As carcinoma is not uncommon in multinodular goiter, a clear clinical suspicion should be there in all cases of MNG and FNAC should be practiced as a must in all cases of MNG. As differentiation of Follicular adenoma and carcinoma forms a major pitfall for FNAC, all follicular neoplasms reported in FNAC should undergo surgery and HPE reports to be followed. Our study clearly shows that 50% patients had no complaints except for goiter. Also more than 60% patients presented with euthyroid state. The most common presentation in FNAC was colloid goiter and that of post op HPE was MNG. Also in our study among 4 cases of papillary carcinoma reported in post op HPE, only one was diagnosed preoperatively by FNAC which clearly states that all cases of multinodular goiter should be viewed with suspicion and should better undergo surgery and postop HPE follow up. Also our study shows 10% incidence of malignancy in multinodular goiter which is consistent with previous studies incidence(3). Also, our study proves an age group of 20 to 65 yrs to be significantly associated with malignancy.

VII. Conclusion

Our study clearly concludes that FNAC is a very useful investigation to be performed in all cases of multinodular goiter as carcinoma is not infrequent in multinodular goiter. And all cases of multinodular goiter should be taken for surgery with sincere followup of post op HPE report as histopathology report is gold standard test to confirm malignancy in multinodular goiter.

References

- [1]. J Amudhan et al; clinicopathological study on multinodular goiter: A prospective study; International journal of scientific study; April 2017, Vol 5 Issue.
- [2]. Pang HN, Chen Cm, The incidence of cancer in nodular goiters. Ann Acad Med Singapore 2007; 36; 241-3.
- [3]. Mangesh Ram Padmawat et al, clinicopathological study of multinodular goiter; International journal of Biomedical and advance research, IJBAR (2014)05/01 www.ss-journals.com DOI:10.7439/ijbar.

*Dr. K.Kesavalingam. "A Prospective Observational Clinicopathological Study on Multinodular Goiter in A Tertiary Care, Academic Institution." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) , vol. 16, no. 10, 2017, pp. 55–58.