



Clinico-Pathological Correlation of Thyroid Swellings

Authors

**Dr Trupti Tonape¹, Dr Virendra S. Athavale², Dr Iresh Shetty³, Dr Aditya Lad⁴,
Dr Gaurav Batra⁵, Dr Ishant Rege⁶, Dr Akriti Tulsian⁷**

¹MBBS, M.S. General Surgery, Professor, Department of General Surgery, Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018

Email: truptitonape@gmail.com, Contact: +919822533630

²MBBS, M.S. General Surgery, Professor, Department of General Surgery, Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018; Contact: +919975425931

³MBBS, M.S. General Surgery (Senior Resident), Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018

⁴MBBS, M.S. General Surgery (Senior Resident), Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018; Email: adityapladd@gmail.com, Contact: +917030742828

⁵MBBS, M.S. General Surgery (Chief Resident), Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018;

Email: dr.gauravbatra@gmail.com, Contact: +919960999360

⁶MBBS, M.S. General Surgery (Chief Resident), Dr D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018; Email: micks.ishant@gmail.com, Contact: +919881130004

⁷MBBS, M.S. General Surgery (Junior Resident), Dr D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018; Email: aks.tulsian@gmail.com, Contact: +917522945605

Corresponding Author

Dr Iresh Shetty, MBBS, M.S. General Surgery

(Senior Resident), Dr. D.Y.Patil Medical College, Hospital and Research Centre, Pimpri, Pune-411018;

Email: ireshshetty@gmail.com, Contact: +917030738686

ABSTRACT

Aims and Objectives: *To elucidate the clinical presentation of thyroid swelling and to assess the Clinico – Pathological correlation of thyroid swellings.*

Materials and Methods: *A prospective observational study was conducted on 35 patients who were admitted with thyroid swelling at our institute, over a duration of one year.*

Result: *1) Mainly all patients presented with swelling (100%); 2) Status of the gland was evident that 15 (42.85%) cases were clinically diagnosed as solitary thyroid nodule; 3) FNAC showed 14 (40%) cases were having colloid goiter and 4) 12 (34.28%) cases reported as a colloid goiter on Histo-pathological examination (HPE).*

Conclusion: *The commonest presentation was swelling in the neck and maximum patients presented as solitary thyroid nodules with 85% cases being euthyroid. We also noted that FNAC is a safe and simple technique of preoperative diagnosis with a sensitivity rate was 86% with a specificity rate of 75%. Our results also showed a PPV of 88.3% and a NPV of 73.1%. and also that histopathological studies confirmed the preponderance of colloid goitre.*

Introduction

The thyroid gland is one of the most sensitive endocrine glands and its structure and function are influenced by the changes in external or internal environments of the body. In simple terms 'goitre' may be defined as an enlargement of thyroid gland. The variety of disorders include – hyperplasia, inflammation, benign or malignant neoplasms.

Diseases of thyroid gland are extremely common. Estimates are that about 1 percent of women will have hypothyroidism, a similar number hyperthyroidism and 3 to 4% clinically detectable thyroid nodules at some time in their lives. Nontoxic goitre is the most common endocrine disorder. Prevalence rates in males are considerably lower. Prior to 1850 approximately 70 thyroidectomies were performed with a reported mortality rate of 41%. During that period infection following thyroid surgery was very common although severe haemorrhage was the major factor in the mortality rate.

But inspite of all this progress for several decades, the management of thyroid disease has remained controversial. The present work makes an attempt to study the clinical profile and differences in the disease spectrum and formulate an approach for early diagnosis and management of various thyroid swellings.

Aims and Objectives

1. To elucidate the clinical presentation of thyroid swelling.
2. To assess the Clinico – Pathological correlation of thyroid swellings.

Materials and Methods

A prospective observational study was conducted on 35 patients who were admitted with thyroid swelling at our institute, over a duration of one year.

The patients coming in surgery outpatient department were studied. Proforma of the case was performed including, preliminary data, chief complains, detailed history, general examination,

systemic examination and local examination of goiter routine and specific investigation, treatment and follow up.

Results

The following were the observations of our study:

1. Clinical Symptoms

Mainly all patients presented with swelling (100%), 5 (14.28%) patients were attracted to the swelling because either pain in the swelling or discomfort. One patient (2.85%) had change in voice. Dysphagia was one of the complaint in 5 (14.28%) patients, Other clinical symptoms were palpitation (2.85%), heat intolerance (5.71%) and widened palpebral fissures (2.85%).

Ananthkrishnan¹ in his study has commonest symptom to be swelling in neck (94% cases), pain was present in 10% cases, rapid increase in size of swelling (4%), change in voice 9.2%, other pressure symptoms were seen is 13.9% cases.

2. Status of Gland Enlargement

This status of the gland enlargement may be diffuse, solitary nodule, multinodular, cystic or carcinoma. From table II it is evident that 15 (42.85%) cases were clinically diagnosed as solitary thyroid nodule, 6 (17.14%) cases multinodular goiter, 9 (25.71%) diffuse parenchymatous goiter, 4 (11.45%) cases of malignancy and one case of thyroglossal cyst.

Vittal² et al., 1993 had seen solitary thyroid nodule was the presenting feature in 1076 cases (47%). Diffuse goiters were seen in 435 patients (19%) and multinodular goitre in 541 patients (23.6%). Thyroid cyst: It is doubtful whether there is such an entity as a primary thyroid cyst but Miller et al 1974 and Waifish et al 1976 have stated that about 25% of isolated thyroid swelling are cystic

3. Fine Needle Aspiration Reports

In 1 case report was inconclusive. 14 (40%) cases were having colloid goiter, 6 (17.15%) cases were benign thyroid lesions. 7 (20%) cases were showing thyroiditis. 4 (11.45%) cases were showing malignancy and 2 (5.7%) were cellular follicular lesion. The sensitivity rate was 86% with a specificity rate of 75%. Our results also showed a PPV of 88.3% and a NPV of 73.1%.

According to Edwin L. Kaplan³ the approximate incidence of FNAC findings are 65% colloid goitre, 20% sheets of follicular cells, 5% malignancy and 10% cases it is non-diagnostic. Amesur⁴ et al had reported 25% adenomatous goiters, 80% thyroiditis, 4% foetal adenoma 3% toxic goitre, 4% normal thyroid on FNAC 7% cases have unsatisfactory reports.

According to Jain S. et al⁵, their results showed a sensitivity of 85.7%. with specificity rate of 96.7%. The end result

showed a PPV of 92.3% and a NPV of 93.1%.

4. Histopathological Reports

We had seen 12 (34.28%) cases reported as a colloid goiter. 8(22.85%) cases were reported as thyroiditis. 7(20%) cases were reported as multinodular goiter. 4(11.43%) cases were reported as thyroid cysts. 1(2.85%) case of follicular adenoma and 3 (8.58%) cases of carcinoma. Histopathological studies confirmed the preponderance of colloid goiter in the series.

Bhansali⁶ et al, 1973 in his study had an incidence of colloid goitre to be 38.20%, Ramlingaswamy, 1945 had 32% Lyall, 1947, had 26% Edibam et al, 1972, had 36.70% and Joshi et al 1975 had 20%. Ananthkrishnan¹ had benign lesions 84.7% and malignancy in 15.3% histopathologically. 50.9% of benign lesions were follicular adenomas, 36.6% were adenomatous goitre, 1.2% colloid goiters, 3.6% Hashimoto's thyroiditis and 2.3% thyroid cysts.

Table – I Showing clinical symptoms in 35 cases

Sr. No.	Clinical Symptoms	No. of cases	Percentage
1.	Swelling in neck	35	100
2.	Pain in swelling	5	14.28
3.	Change of voice	1	2.85
4.	Dysphagia	5	14.28
5.	Dyspnoea	-	-
6.	Palpitations	1	2.85
7.	Tremors	-	-
8.	Anxiety / emotional distribution	-	-
9.	Heat intolerance	2	5.71
10.	Widened palpebral fissures	1	2.85
11.	Weakness	-	-
12.	Weight loss	-	-

Table – II Showing status of gland enlargement in the series

Sr. No.	Gland Enlargement	No. of cases	Percentage
1.	Diffuse	9	25.71
2.	Solitary nodule	15	42.85
3.	Multinodular	6	17.14
4.	Thyroid cyst / Thyroglossal cyst	1	2.85
5.	Carcinoma	4	11.45
	Total	35	100

Table – III Showing fine needle aspiration cytology (FNAC) reports in the series

Sr. No.	FNAC report	No. of cases	Percentage
1.	S/O colloid goiter	14	40
2.	S/O benign thyroid lesion	6	17.15
3.	S/O malignancy	4	11.45
4.	S/O thyroiditis	7	20
5.	Cellular follicular lesion	2	5.70
6.	Inconclusive	1	2.85
7.	Not done	1	2.85
	Total	35	100

Table – IV Showing histopathological reports in operated cases.

Sr. No.	Histopathological Reports	No. of cases	Percentage
1.	Colloid goiter	12	34.28
2.	Multioduler goiter	7	20
3.	Diffuse parenchymatous goiter	-	-
4.	Follicular adenoma	1	2.85
5.	Carcinoma	3	8.58
6.	Thyroid cyst	4	11.43
7.	Thyroiditis	8	22.85
	Total	35	100

Conclusion

In our study, we have come to the conclusion that, the commonest presentation was swelling in the neck and maximum patients presented as solitary thyroid nodules with 85% cases being euthyroid. We also noted that FNAC is a safe and simple technique of preoperative diagnosis with a sensitivity rate was 86% with a specificity rate of 75%. Our results also showed a PPV of 88.3% and a NPV of 73.1%.and also that histopathological studies confirmed the preponderance of colloid goitre.

Limitations

However, our case series is small and a better assessment of the clinico-pathological correlation of thyroid swellings can be made with a larger sample size and longer duration of study even though our study gives a fair idea of the same.

Conflict of Interest: None

References

1. Ananathkrishnan N., KotiMadhavaRao, et al.The single thyroid nodule – a South

Indian profile of 503 patients with special reference to incidence of Malignancy. Indian Journal of Surgery (1993), 55(10), 487-92.

2. Vittal S. et al.Thyroid surgery – Indian experience.Indian Journal of Surgery (1993) 55 (4-5), 183-187.
3. Kaplan Edwin.Principles of Surgery ed. By Schwartz, Schires and Spences, 5th ed. 1988, 1611-1612.
4. Amesur N.R. et al. Thyroid swelling – a review of 74 consecutive cases of thyroids, with special reference to its incidence, malignancy and post-operative complications. Indian Journal of Surgery, 25, 1963, (621-633)
5. Jain S, Nayak R, Totade S, Shukla N. Clinico - Pathological Correlation of Thyroid Swellings. International Journal of Medical Research and Review, December 2014 Vol 2(6), 553-560
6. Bhansali S.K.Surgery of thyroid gland : The state of art. Indian Journal of Surgery, May 1985, 217-227.