

Clinical, Radiological and Pathological Correlation in Thyroid Swellings: A Prospective Observational Study

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ABSTRACT

Background: Thyroid swellings represent one of the most common endocrine disorders encountered in surgical practice. Accurate diagnosis requires correlation of clinical findings with radiological and pathological investigations.

Objective: To correlate clinical, radiological and pathological findings in patients presenting with thyroid swellings and evaluate the diagnostic accuracy of FNAC.

Methods: A prospective observational study including 30 patients with thyroid swelling. All patients underwent clinical evaluation, ultrasonography, FNAC and histopathological examination.

Results: Females constituted 90% of cases. The most common age group was 31–40 years. Multinodular goitre was the most common diagnosis on clinical examination, ultrasonography and histopathology. Papillary carcinoma was the most common malignancy.

Conclusion: FNAC and ultrasonography are reliable tools for evaluation of thyroid swellings, while histopathology remains the gold standard.

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INTRODUCTION

Thyroid disorders are among the most prevalent endocrine diseases worldwide. Thyroid swellings are frequently encountered in clinical practice and may arise due to a variety of conditions including benign nodular goitre, inflammatory thyroid diseases and malignant neoplasms. Proper evaluation of thyroid nodules is essential in order to differentiate benign from malignant lesions and guide appropriate management.

The combination of clinical examination, ultrasonography, fine needle aspiration cytology (FNAC) and histopathological examination forms the cornerstone of diagnostic evaluation.

Materials and Methods

Study Design: Prospective observational study.
Study Period: January 2021 to June 2022.
Sample Size: 30 patients with thyroid swelling.

Inclusion Criteria:
- Patients presenting with thyroid swelling
- Patients of all age groups

- Patients with euthyroid status

Exclusion Criteria:
- Patients with abnormal thyroid function tests

All patients underwent clinical examination, ultrasonography, FNAC and surgical management followed by histopathological examination.

Results

Table 1: Age Distribution

Age Group	Number	Percentage
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11–20	1	3.33%
21–30	1	3.33%
31–40	10	33.33%
41–50	7	23.33%
51–60	3	10%
61–70	6	20%
71–80	1	3.33%
81–90	1	3.33%

Table 2: Gender Distribution

Gender	Number	Percentage
Male	3	10%
Female	27	90%

Table 3: Site of Lesion

Site	Number	Percentage
Right lobe	12	40%
Left lobe	11	36.67%
Bilateral	7	23.33%

Table 4: Histopathological Diagnosis

Diagnosis	Number	Percentage
Multinodular colloid goitre	22	73.33%
Hashimoto thyroiditis	2	6.67%
Lymphocytic thyroiditis	1	3.33%
Papillary carcinoma	3	10%
Follicular carcinoma	1	3.33%
Hurthle cell neoplasm	1	3.33%

Discussion

This study highlights the epidemiological and pathological spectrum of thyroid swellings in a tertiary care setting. A clear female predominance was observed which is consistent with previously published literature. The highest incidence was noted in the third and fourth decades of life.

Multinodular goitre was the most common thyroid swelling observed. Similar findings have been reported in multiple studies where benign thyroid disorders constituted the majority of cases.

Ultrasonography plays a crucial role in evaluation of thyroid nodules by assessing characteristics such as echogenicity, calcification, vascularity and margins. FNAC remains the investigation of choice for preoperative evaluation due to its high diagnostic accuracy and cost effectiveness.

In the present study, papillary carcinoma was the most common malignancy which correlates with global epidemiological patterns. Histopathological examination remains the definitive diagnostic modality.

Conclusion

Thyroid swellings are common clinical entities with a higher prevalence among females. Most lesions are benign with multinodular goitre being the most common pathology. FNAC combined with ultrasonography provides reliable preoperative diagnosis while histopathological examination remains the gold standard.

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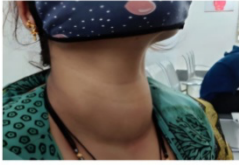


Fig. 6 Diffuse swelling of Neck in Goitre.

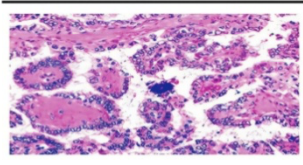


Fig. 7 Papillary Carcinoma



Fig. 8 Left Lobe Thyroid.

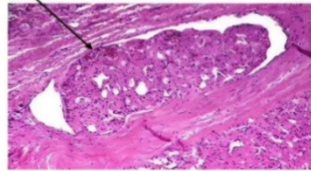


Fig. 9 Follicular Carcinoma withvascular invasion