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Spectrum of thyroid lesions in adult patients at a tertiary care hospital

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ABSTRACT

The present study titled "Spectrum of thyroid lesions in adult patients at a tertiary care hospital" was conducted among the patients at IMCHRC, Indore, in which we found that out of the total 100 thyroid cases included, 53 were colloid goiter, 12 were follicular adenoma, 8 were papillary carcinoma and 25 were of multi-nodular.

Keywords— *Histological and Cytological*

1. INTRODUCTION

Diseases of the thyroid are of great importance because most of them are manageable by medical or surgical interventions. The diseases of thyroid gland clinically manifest as hypothyroidism, hyperthyroidism or a diffuse or nodular goiter, thyroiditis or malignancy manifest as enlargement of thyroid gland. These are endemic in geographical areas where the soil, water and food remain deficient in iodine. Thyroid lesions are more frequent in females. Most of the nodules are due to a cystic change in nodular goitre or colloid cysts while a few are malignant. Thyroid adenoma is the commonest benign tumour of the thyroid. Thyroid carcinoma is the most frequent endocrine malignancy, long-standing goitre is regarded as the most frequent risk factor for the development of a thyroid neoplasm. Papillary carcinoma is the most common thyroid cancer followed by medullary, follicular, anaplastic carcinoma and lymphoma. Thyroid cancer remains more common in females in comparison to males and is more common in the fourth and fifth decades of life.

Categorization of a thyroid lesion requires a thorough clinical examination with the assessment of hormone secretion activities of the gland and morphology. Nowadays thyroid FNAC is the most accurate and cost-effective tool for guiding the clinical management of patients with thyroid nodules. The role of cytology in thyroid swellings is important for the pre-operative diagnosis of benign or malignant lesions.

2. MATERIAL AND METHOD

The present study titled "Spectrum of thyroid lesions in adult patients at a tertiary care hospital" was conducted among the patients at Index Medical College Hospital and Research Centre, Indore.

3. STUDY DESIGN

Prospective and retrospective study.

(a) Study Area: Index Medical College, Hospital & Research Centre, Indore
(b) Study Population: Patient with thyroid treated at Index Medical College, Hospital and Research Centre, Indore were included in the study
(c) Study Duration: May 2015 to May 2018
(d) Sample Size: 100 patients
(e) Data Collection: All the appropriate samples of blood in the Department of Pathology were investigated and records were made with relevant history as per the pre-designed perform.

4. METHODOLOGY

A total of 100 biopsy samples of thyroid gland were collected for histological and cytological evaluation. The detailed information regarding age, gender, clinical status, relevant investigations like previous FNAC, thyroid scans, USG reports and operational findings were obtained. The specimens were fixed in 10% formalin and tissue processing and staining were performed following standard protocol. In all cases, the diagnosis was made on basis of light microscopy morphology and clinical information. Histology slides of all cases were reviewed to verify the diagnosis. The thyroid diseases were classified on basis of histology or cytology into colloid goiter, simple nodular goiter, multinodular goiter, hashimoto thyroiditis, thyroid adenoma, thyroid malignancies. The data was analyzed by standard statistical methods.

4.1 Inclusion Criteria

- All palpable lesions of the thyroid gland.
- Non-palpable lesion through ultrasound and CT guided FNAC.

4.2 Exclusion Criteria

Swelling arising from the skin and surrounding structures of the thyroid gland.

5. RESULTS

Table 1: Distribution of cases according to age and sex

Age Groups (Years)	Male	%	Female	%	Total
<20	0	0%	4	5%	4
20-29	0	0%	14	16%	14
30-39	6	43%	19	22%	25
40-49	4	29%	27	31%	31
50-59	2	14%	13	15%	15
60-69	1	7%	9	10%	10
>70	1	7%	0	0%	1
Total	14	100%	86	100%	100

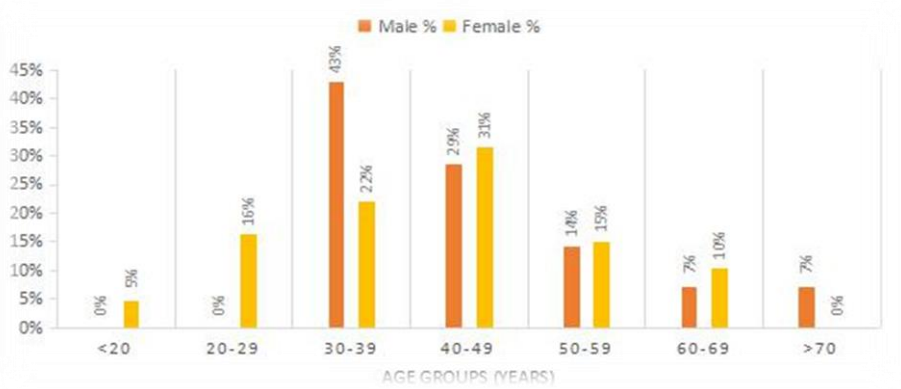

Fig. 1: Graph showing distribution of cases according to age and sex

Table 2: Distribution of cases according to histological and cytological findings

Histological & cytological findings	No. of Cases	No. of Cases (%)
Colloid goitre	44	44%
Simple modular goiter	6	6%
Multinodular goiter	13	13%
Hemorhagic cyst	5	5%
Granulomatous thyroiditis	8	8%
Hashimoto thyroiditis	3	3%
Lymphyocytic thyroiditis	11	11%
Follicular adenoma	6	6%
Papillary carcinoma	4	4%
Total	100	100%

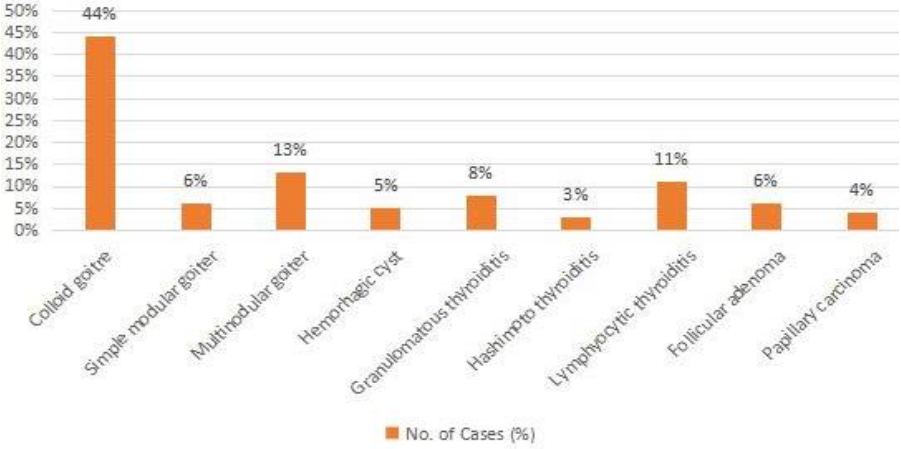

Fig. 2: Graph showing Distribution of cases according to histological and cytological findings

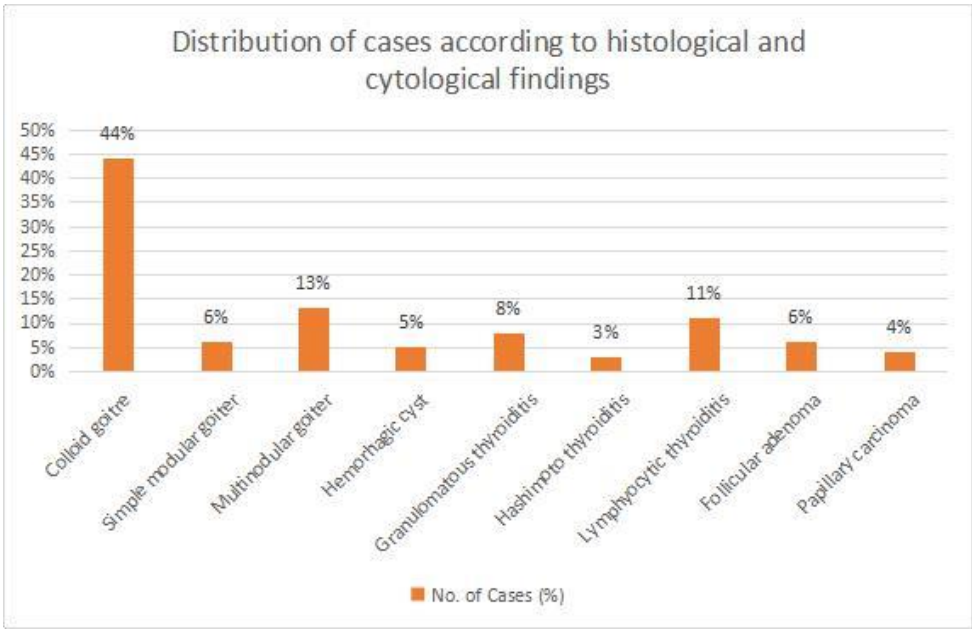

Fig. 3: Graph showing distribution of cases according to Historical and cytological findings

Table 3: Distribution according to HPR findings

HPR findings	No. of cases	No. of cases (%)
Colloid goitre	25	53.2%
Follicular adenoma	6	12.8%
Multinodular goitre	12	25.5%
Papillary carcinoma	4	8.5%
Total	47	100.0%

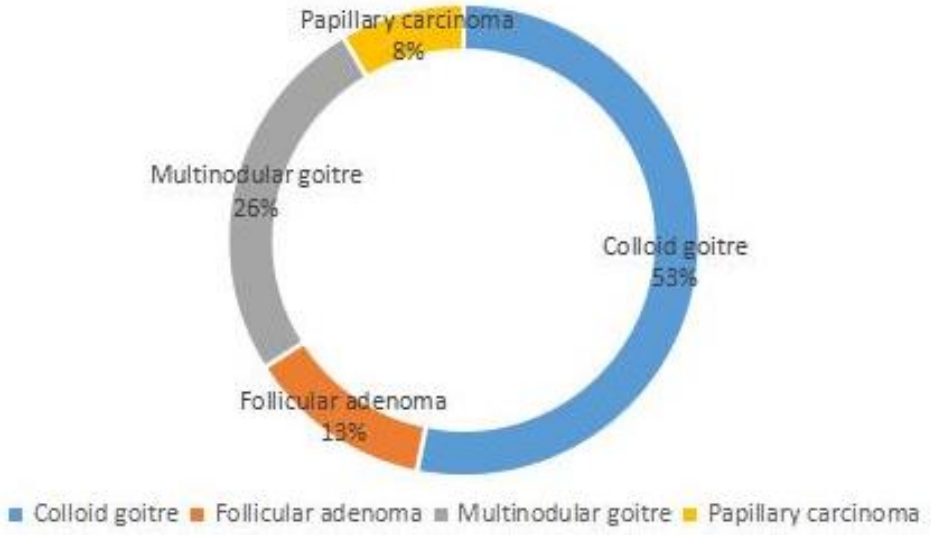

Fig. 4: Distribution according to HPR findings

Table 4: Distribution between the cytological diagnosis and their corresponding HPR findings

Diagnosis	Cyto	Cyto (%)	HPR	HPR (%)
Colloid goitre	26	57.8%	25	53.2%
Follicular adenoma	6	13.3%	6	12.8%
Multinodular goitre	13	28.9%	12	25.5%
Papillary careinoma	0	0.0%	4	8.5%
Total	45	100.0%	47	100.0%

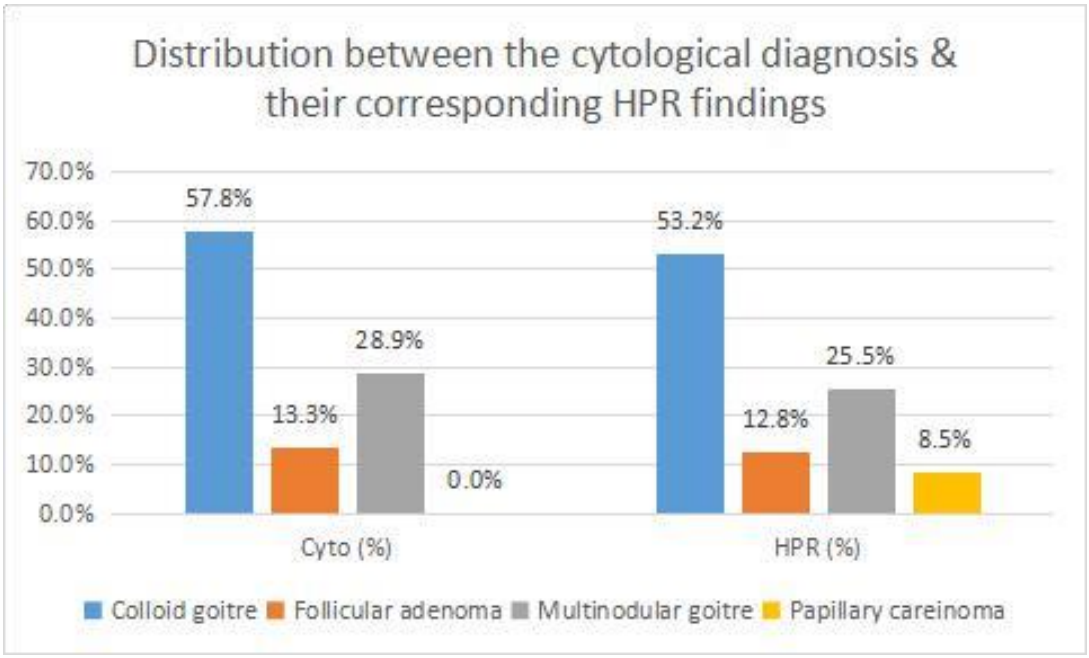

Fig. 5: Graph showing distribution between the cytological diagnosis and their corresponding HPR findings

6. DISCUSSION

(Table 1) Among the male subjects, 71.42% cases were in 30-49 years age range, 14.28% were found in 50-59 years age range, 7.14% were found in 60-69 years age and 7.14 were found in >70 years. In female cases, 20.93% were found in the age range of <30 years, 53.49% cases were seen in 30-49 years age, 15.12% cases found in age 50-59 years and only 10.47% cases were seen in age >60 years. The maximum number of cases 27 in females were detected the age range of 40-49 years & in males 6 cases were detected in the age range of 30-39 years.

(Table 2) The above table shows maximum cases 44% were of colloid goitre, 6% cases presented with simple nodular goitre, 13% cases were of multinodular goitre, 5% cases of hemorrhagic cysts, 8% were detected with granulomatous thyroiditis, 11% cases were of lymphocytic thyroiditis, 3% cases of Hashimoto thyroiditis, 6% cases were of follicular adenoma & in 4% cases papillary carcinoma was detected.

This (table 3) shows about results of histopathological findings of the thyroidectomy specimens. The corresponding results confirmed that colloid goitre in 27 (53.1%) cases, 06 (12.7%) were found as follicular adenoma, 12 (25.5%) cases were found multinodular goitre while papillary carcinoma of the thyroid was reported in 04 (8.5%) cases.

This (table 4) presents the correlation between the cytological diagnosis and their corresponding HPR findings. Cytological diagnosis showed colloid goiter 26 (53%), follicular adenoma 06 (12.2%), multinodular goiter 13 (26.5%) while their corresponding HPR diagnosis were colloid goiter 25 (53.1%), follicular adenoma 06 (12.7%), multinodular goitre 12(25.5%) and papillary carcinoma 04 (8.5%).

7. CONCLUSION

Thyroid disorders are one of the common problems encountered in the general population. Among the various histopathological and cytological patterns of thyroid diseases, colloid goitre remains the most common lesion. Follicular adenoma remains the most common benign tumour. Thyroid lesions are most commonly encountered in females. The utility of FNAC in thyroid lesions as proved to be safe, cost effective and easy to accept initial diagnostic procedure that can be carried out in OPD and helps largely to avoid unwanted surgeries. Thyroid diseases show definite female predominance with most of them occurring between 30-50 years of the page. FNAC findings and USG findings show moderate agreement with histopathology of thyroid lesions. Many of the times USG alone overdiagnosing a lesion as malignant whereas the combination of both USG and FNAC gives a more accurate result. This study emphasises the need for periodic evaluation in middle-aged females for early diagnosis of malignant lesions. This study also indicates the significance of FNAC as an easy for early diagnosis of benign or malignant lesions.

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