

## Title -Histopathological Spectrum of Thyroid Gland Lesions in A Tertiary Care Center- A Five Year Retrospective Study

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### Abstract:

**Introduction:** To study the histopathological spectrum of thyroid gland lesion and to find the prevalence and frequency of different thyroid lesions.

**Material & Methods :** This is a retrospective study which was conducted in gajra raja medical college Gwalior a tertiary care center from July 2013 to June 2018. All the thyroid tissue submitted for histopathological examination were taken into consideration. All thyroid lesions reported were analysed.

**Results :** A total number of 80 cases were analysed ranging from 15 to 65 years. Out of 80 cases 12 (15%) were males and 68 (85%) were females. The age of the studied benign thyroid lesions ranged from 15 years to 65 years with relative peak age of incidence was seen in 21-30 years age group. The age of studied malignant thyroid lesions ranged from 25 years to 60 years with relative peak age of incidence was seen in 41-50 years age groups. 85% cases were diagnosed to be suffering from benign lesions which included Colloid Goiter (77.5%) & Follicular Adenoma (7.5%). Among 15% cases of malignant lesions, most common was Papillary Carcinoma (10%) followed by Follicular Carcinoma (2.5%) & Medullary Carcinoma (2.5%).

**Conclusion :** Females accounted for 85% of patients with thyroid lesions and the incidence peaked at a younger age. Colloid Goiter is the most common benign thyroid gland lesion. Papillary Carcinoma is the most common malignant thyroid gland carcinoma.

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### I. Introduction

Thyroid disorders are one of the most common endocrine disorders seen worldwide. Almost one-third of the world's population lives in areas of iodine deficiency and account for an estimated 200 million cases worldwide and 42 million cases in India itself. They are the most common endocrine disorders in India and majority of them are benign. Thyroid disorders may present as a derangement of thyroid hormone secretion, thyroid enlargement or pain. Thyroid enlargements are more common in females. Data on the prevalence of thyroid malignancy among thyroid enlarged patients were very limited in the study area. Therefore, this study was aimed to determine the prevalence of thyroid malignancies among thyroid enlarged patients. The purpose of this study was to document the types of thyroid lesions seen in a tertiary health facility in Gwalior Madhya Pradesh. Knowledge of the spectrum of thyroid disorders will help in planning for appropriate treatment modalities. Thyroid Lesions are influenced by a variety of epidemiological factors which include Age, Sex, Region, Diet, Iodine Intake, Radiations and Environmental Factors.

### II. Material And Methods

This is a retrospective study and analysis of medical records of all patients with thyroid lesions received in department of pathology G.R. medical college Gwalior. The duration of study was 5 years from July 2013 to June 2018 were carried out. Information obtained included age, sex, clinical diagnosis, histological diagnosis were available. The data were presented in frequency tables. A Sample Size of 80 Subjects was studied.

**Inclusion Criteria:** 1. All the patients attending the endocrinological clinics in government Hospital having a history and or clinical signs and symptoms of thyroid disorder during the study period. 2. All cases of thyroid lesions presenting as lump or nodule in neck with or without lymphadenopathy attending the surgery OPD at government Hospital during the study period.

**Exclusion Criteria:** 1. All genetic/ congenitally affected thyroid patients. 2. Antenatal cases with thyroid abnormalities. 3. All cases of thyroid disorders caused due to drug intake/side effects. 4. Patients having thyroid complications due to surgery. 5. Patients undergoing treatment for thyroid disorders.

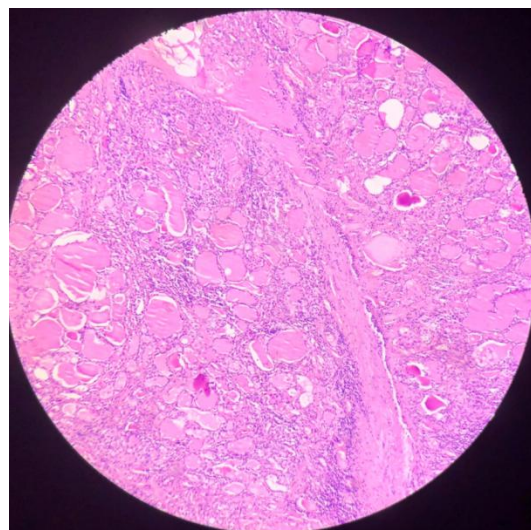
### III. Results

A total number of 80 cases were analyzed ranging from 15 to 65 yrs. Out of 80 cases 12 (15%) were males and 68 (85%) were females. The presenting age of all benign thyroid lesions ranged from 15-65 yrs peaking between 21 and 30yrs. The presenting age of all malignant thyroid lesions ranged from 25-60 yrs peaking between 41 and 50 yrs.

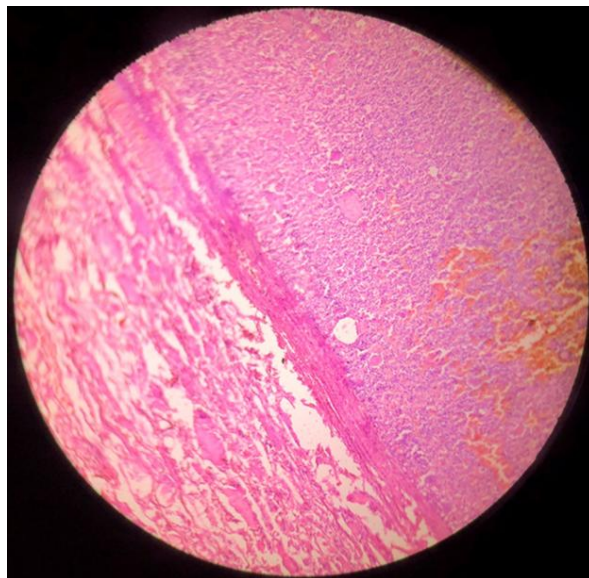
Histologic type	Gender		Total
	Female	Male	
Colloid goitre	42	20	62
Follicular adenoma	6	-	06
Papillary carcinoma	8	-	08
Follicular carcinoma	2	-	02
Medullary carcinoma	-	2	02
Total	58	22	80

Age (years)	Benign		Malignant			Total
	Colloid goitre	Follicular adenoma	Papillary carcinoma	Follicular carcinoma	Medullary carcinoma	
< 20	02	-	-	-	-	02
21-30	22	04	02	-	-	28
31-40	14	02	02	02	-	20
41-50	14	-	02	-	02	18
51-60	08	-	02	-	-	10
61-70	02	-	-	-	-	02
Total	62	06	08	02	02	80

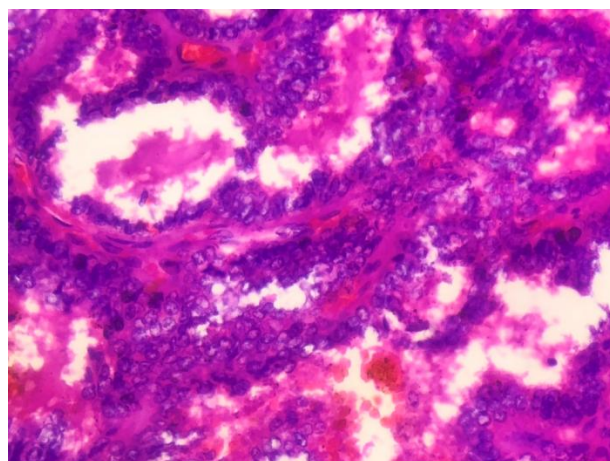
85% cases were diagnosed to be suffering from benign lesions which included Colloid Goitre (77.5%) & Follicular Adenoma (7.5%). Among 15% cases of malignant lesions, most common was Papillary Carcinoma (10%) followed by Follicular Carcinoma (2.5%) & Medullary Carcinoma (2.5%).



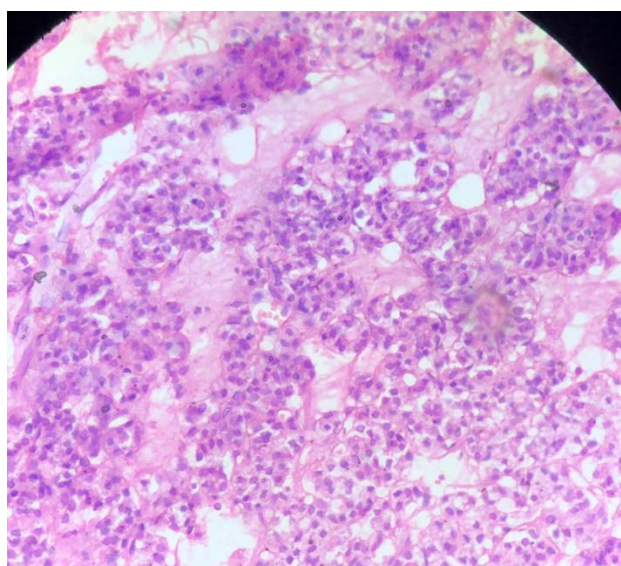
Colloid Goitre



Follicular Adenoma



Papillary Carcinoma



Medullary Carcinoma

#### **IV. Discussion**

Thyroid lesions are the most common endocrine problem and usually present with enlargement of the thyroid gland or sometimes pain. This study was conducted in the department of Pathology, Gajra raja Medical College Gwalior. For this study 80 thyroid specimens were studied by detailed history and histopathological examinations. Both the neoplastic and non-neoplastic diseases of thyroid are common all over the world, with a varying frequency and incidences depending upon iodine deficiency status. In India about 42 million people suffer from thyroid diseases. Diseases of the thyroid are of great importance as most can be controlled by medical or surgical management. In a study conducted by Salami et al. from 2004-2014 female to male ratio was 6.3:1. In our study female to male ratio is 5.6:1. In another study conducted by Khalid Ali from 2011-2016 benign nodules were 73.7% and 26.3% malignant nodules. In our study the incidence of thyroid malignancy is 15%. In the present study, among non-neoplastic lesions goitre 62 cases (77.5%) was found to be the most common lesion. This frequency is similar to the frequency recorded in earlier work done by Nzegwu et al (63.2%), Edino et al (68%), and Seleye et al (52.5%). In the present study, benign tumours were more common than malignant tumours. Out of 80 lesions 68 cases (85%) were benign and 12 cases (15%) were malignant tumours. In the present study, among 80 cases of lesions, follicular adenoma (06 cases 7.5%) was found. This was similar to 8.1% and 7% reported by Adeniji et al and Abdulkareem et al. The predominant histological type of thyroid carcinoma in this study was papillary carcinoma similar to Nzegwu et al and Seleye et al. This finding is however at variance with studies done by Nggada et al and Edino et al which found follicular carcinoma to be the most common thyroid cancer. Papillary carcinoma represented 66% of the malignant thyroid tumours. This was similar to studies done by Nzegwu et al (56.5%) and Seleye- Fubara et al (54.5%). Medullary carcinomas are relatively uncommon with only 2 cases (16.6%) of the malignant tumours. This relative rarity agrees with findings from Nzegwu et al and Seleye- Fubara et al.

#### **V. Conclusion**

85% cases were diagnosed to be suffering from benign lesions [colloid goitre 77.5% and follicular adenoma 7.5%] and 15% were malignant. Most common was Papillary Carcinoma (10%) followed by Follicular Carcinoma (2.5%). The mean age of patients in this study was 40 years with a range of 15-65 years. This study helps in preparing a data base on it is a tertiary level study.

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