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Short report

A study of thyroid swelling with clinicopathological parameters

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ABSTRACT

Background & Objectives: Thyroid malignancy constitutes about 1 % of all organ malignancies and approximately 1530 people die of thyroid cancer each year¹. This study was conducted with aim of clinical evaluation of thyroid swellings in Rajasthan (North India). **Results:** The highest incidences (62%) of thyroid enlargements were found in age group of 20-40 years. The extremes of ages comprises of a few cases only. Females predominated in this study 87%, ratio being 7:1. Majority (40%) of patients came with complaint of swelling of duration less than 6 months. Most common site of pathology was seen in right lobe 48%. Grave's disease was found in 4% patients.

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1. Introduction

The pathobiology of thyroid tumor is of special interest both because of the unique feature of the thyroid and thyroid tumor and because of the impact of the thyroid to other tissues. The thyroid nodule is very superficial, easily visible but the clinical diagnosis is tough to establish despite a battery of tests available. Thyroid nodules are prevalent in a population with a rate of 5%.² Most of these are benign but approximately 5% proved to be malignant. Although most patients have a favorable prognosis, approximately 1200 people die of thyroid cancer each year. Thyroid malignancy constitutes 1 % of solid organ malignancies. Thyroid cancer is one of the fastest growing cancer in US with a 240% increased incidence over past three decades³.

Classically, some physical characteristics suggest a high cancer risk in a thyroid nodule. Among these characteristics are a very firm nodule, rapid growth, and fixation to surrounding structures, enlarged regional lymph nodes and vocal cord paralysis.

AIMS & OBJECTIVES

Study of thyroid swellings with Clinical evaluation of the thyroid nodule.

2. Materials And Methods

This study was done on 100 patients with thyroid nodules, admitted in surgical wards of SMS Medical College and Hospital Jaipur Rajasthan, India catering the other nearby states also. The detailed observations in each patient regarding age, address, presenting complaints, duration of predominant symptoms, general physical examination, local examination involving site and all characteristic of thyroid swelling recorded in prescribed Performa. All patients were investigated by routine hemogram, X-ray chest and ECG. Biochemical thyroid profile of every patient using ELISA was routinely done. Every patient was preoperatively assessed by fine needle aspiration cytology, prepared by a cytopathologist, using aspiration technique. Some of the patients were undergone thyroid scanning and ultrasonography of thyroid gland.

Statistical analysis: The data collected on Excel sheet and analyzed.

Observations and Discussion

The paucity in Indian literature of thyroid cancer and its prevalence has made us to go through US based study. Palpable nodules are 6 times more common in adolescent female as compare to male of same age⁴. We found an unparalleled incidence (13%) of thyroid cancer in Jaipur Rajasthan (North India) as in contrast to that of 5% in US only, affected by thyroid malignancy.

Majority (about half) of cases under this series belong to Jaipur district alone. The highest incidence of thyroid enlargements

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(62%), were found in age group of 20-40 years. The extremes of ages comprises of a few cases only. All the teenagers (5) were female and those in late sixties and seventies (2) were males only. The extremes of ages represent the minimum numbers in this study. Htwe T T, et al⁵ found highest (45.2%) incidence of thyroid swelling in the 41-60 year age group, followed by 42.9% in the 21-40 year age group, 8.1% in the > 60 years age group, and 3.8% in the age group < 21 years. Females predominated in present study, 87% females and 13% males, ratio being 7:1. They⁵ also revealed similar findings to this study, 17.4% male subjects and 82.6% female subjects in Malaysia.

The consistency of swellings found soft to hard. Most of swellings (58%) were soft while hard swellings were minimum in all cases of carcinomas. Papillary carcinomas were seen in age group of 20-30 years. Papillary carcinoma made 76% of all malignancies in this study. Follicular carcinoma seen in 18% of patients, with all patients being females in their age of 40's. Again, all patients had solitary nodule, prevailing duration being one year only. Medullary carcinoma was seen in a female of 40's had pain in swelling, sweating, palpitation with a big solitary nodule. Her fine needle aspiration cytology described "de-Quervain's thyroiditis or colloid goitre". The incidence of medullary carcinoma in this study is approximately 8% of all thyroid malignancies.

Robert Uddsmann et al⁶ described incidence of papillary thyroid carcinoma 80%, follicular carcinoma 10% and medullary carcinoma 5%. They described an older age for medullary thyroid carcinoma as in this study too. They described younger age for papillary thyroid carcinoma as seen in this study. Incidence of carcinoma was found to be 11.5% amongst solitary thyroid nodules. However no patient had any history of radiation exposure in childhood or occupation.

Hashimoto's thyroiditis is the most common cause of goiterous hypothyroidism among adults. Hashimoto's thyroiditis seen in around second to third decade in this series, contrary to earlier studies of Furzyfer et al⁷ who described highest incidence of thyroiditis in 30-50 years age group. Goiters in these cases were usually hard.

In this study, 2 cases were found, with firm swellings: Fine aspiration cytology could not show either malignancy or thyroiditis. Diagnosis could be established only after histopathological report.

Majority, 40% of patients came with complaint of swelling of duration less than 6 months. The patients presented within a period of thyroid of 1 year constitute about 70%. This reflects the concern of majority people regarding this disease. However, 1/10th of patients came with long duration more than 5 years. It shows, still a lot is to be done to gap. The majority of patients presented without any predominant symptoms like dysphagia, dyspnoea, hoarseness of voice, tremors, eye anxiety, loss or gain of weight, palpitations,

altered bowel or sleep, preference or intolerance to heat or cold. This can be best attributed to early report to hospital for treatment. Most commonly, patients had feeling of palpitations; however none except one had any ECG changes. Hoarseness of voice was seen in 3 cases only; all those cases had big thyroid swelling. Loss of weight encountered in majority of Grave's disease patients. Majority of these patients also had tremors in upper extremities, likewise, mostly had increased sweating. Tachycardia (sleeping pulse rate >100/mm.) was encountered in most of Grave's patients while 2 patients of Grave's had positive eye signs. Deep tendon reflexes were exaggerated in half of these patients. Bruit heard in a single case of Grave's disease.

Most common site of pathology was seen in right lobe 48%. Left lobe was involved in 30% of cases and both lobes were involved in 22% of cases. Females constituted 81 % of solitary nodules as compared to 54% of solitary nodules in males. Males constituted about 46% of multi nodular goiter as compared to 19% of females. In present study 13% cases of malignancy found in thyroid nodules while Seb. Et al⁸ found 24.9% cases of malignancy in thyroid nodules.

Grave's disease was found in 4 patients, out of which, one young patient came with a complaint of swelling and only histopathological could diagnose Grave's disease. However, one patient presented most of the clinical features of Grave's disease. All fine needle aspiration cytology of Grave's disease found to be acellular.

More than 3/4th patients used iodized salt while 13% of patients have history of consumption of loosely sold non iodized as well as packed iodized salt. However remaining 12 patients gave history of consumption loosely sold non-iodized salt only.

Table - 1. Age-Sex incidence

Age (In Years)	Number of cases		Total
	Males	Females	
11-20	-	5	5
21-30	4	32	36
31-40	5	30	35
41-50	2	17	19
51-60	-	3	3
61-70	1	-	1
71-80	1	-	1
Total	13	87	100

Table - 2. Predominant Symptoms and signs

Symptoms	No. of patients
Hoarseness of voice	3
Dysphagia	6
Palpitation	14
Loss of weight	8
Increased sweating	6
Decreased appetite	11
Increased appetite	4
Loss of sleep	3
Tremors	3
Constipation	4
Tachycardia	8
Eye signs	2
Exaggerated deep tendon reflexes	3
Bruit	2

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Table 3- Histopathological reports in relation to sex and site

HPERREPORT	Male	Female	Right	Left	Bilateral	Total
Colloid goitre	5	36	20	14	7	41
Follicular adenoma	2	30	15	12	5	32
Papillary carcinoma	3	5	3	1	4	8
Follicular carcinoma	-	2	1	1	-	2
Graves disease	2	2	1	-	3	4
Hashimotos disease	2	2	1	-	1	2
Papillary Ca with Hashimotos dis	1	1	1	1	1	2
Plain goitre	-	5	3	-	2	5
Follicular Adenoma with focal thyroiditis	-	1	1	-	-	1
Lymphoid hyperplasia	-	1	1	-	-	1
Medullary carcinoma	-	1	-	1	-	1
Nodular goitre	-	1	-	1	-	1

Table 4- Use of salt by study population

Type of salt	No. of patients
Iodized	75
Non-iodized	12
Both types	13
Total	100