Original Article

A clinico-pathological study of thyroid swellings at tertiary health care center

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Abstract

Introduction: Thyroid gland and its diseases are known to clinical practice since the time of Hippocrates and is still an important subject of interest. Normal thyroid function is necessary for physiological activity of most organs. **Aims and Objectives:** Clinico-etiological Study of Thyroid Swellings at Tertiary Health Care Center. **Methodology:** The Clinico-Etiological Study of thyroid swellings was carried out on 50 patients who attended the surgical Out Patient Department of Goa Medical College and were later operated. With informed written consent, all detailed history regarding the etiological factors, examination, investigations and operations were performed and histopathological examination was done. All the results are presented in the number and percentages. **Result:** The majority of the Patients were with age more than >50 i.e. 54% followed by; Obese 42%; K/C/O Diabetes 38%; K/C/O Hyperthyroidism 28%; K/C/O Hypothyroidism -24%; Family History Thyroid Swelling-8%; K/C/O AFP Syndrome 4%.Twenty-four of the cases studied had colloid adenomatous goitre. Three of the colloid goitre cases had associated follicular adenoma and 4 had associated thyroiditis. Six of the patients studied had follicular adenoma. Five cases of carcinoma were detected. Out of which 3 were of follicular type and a 2 cases had papillary type of carcinoma. Primary hyperplastic goitre was found in 4 cases. Four patients had colloid goitre associated with thyroiditis and a single patient had evidence of thyroiditis. **Conclusion:** In our study the most common etiological factors observed were age more than >30, Obesity, Diabetes, Hyperthyroidism, Hypothyroidism, Family History, AFP Syndrome. The common pathological features observed were colloid adenomatous goitre, Follicular adenoma, Thyroiditis, carcinoma, papillary type of carcinoma, Primary hyperplastic goitre etc.

Keywords: Thyroid Swelling, Hyperthyroidism, Hypothyroidism, Adenoid Familial Polyposis Syndrome, Thyroid carcinoma, Primary hyperplastic goitre.

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INTRODUCTION

Thyroid gland and its diseases are known to clinical practice since the time of Hippocrates and is still an important subject of interest. Normal thyroid function is necessary for physiological activity of most organs. Thyroid enlargement has been a common problem encountered in general surgical practice. Thyroid being an endocrine gland, its involvement has a diverse issue from a meagre cosmetic problem to a more concerned malignancy. In nodular goitre, multiple nodules form the Multinodular goitre[1]. Appropriate diagnosis and proper treatment is the need of the hour, and MNG has to be managed appropriately. The process involves a good physiological and medical knowledge combining a sound surgical and anatomic knowledge, taking into account the pathological diagnosis. Management of thyroid problems pose a great challenge to the medical fraternity and needs to be studied vastly. Magnitude of the goitre problem in India is far greater than what it was estimated earlier. Now about 170 million people are estimated to be affected in the country [2]. Endemic growth is a significant problem affecting up to 12% of the world population. Nodular goitre is probably the most common endocrine problem in the world today[3]. Thyroid disorders are the most common endocrine disorders seen in clinical practice and solitary thyroid nodule is one of the common

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presentations of thyroid diseases. A discrete swelling in an otherwise impalpable gland is termed isolated or solitary nodule of thyroid.[4] The prevalence of thyroid nodule increases from near zero at 15 years to 50% by about 60 to 65 years on sonography. At most 10% of these nodules are palpable even by experienced clinicians.[5] At autopsy, up to 30% of thyroid nodule harbour malignant nodules under 1cm, termed microcarcinomas.[6] A nodule is more likely to be a carcinomatous in males[7]

MATERIAL AND METHODS

The Clinico-etiological Study of thyroid swellings was carried out on 50 patients who attended the surgical outpatient department of Goa Medical College and were later operated. With informed written consent all detailed history regarding the etiological factors, examination, investigations were performed and histopathological examination was done. All the results are presented in the numbers and percentages.

RESULT

Table 1: Distribution of the Patients as per Associated Etiological (Risk) Factor

Associated Etiological (Risk) Factor*	No.	Percentage
Age >50	27	54
Obese	21	42
K/C/O Diabetes	19	38
K/C/O Hyperthyroidism	14	28
K/C/O Hypothyroidism	12	24
Family History Thyroid Swelling	4	8
K/C/O AFP Syndrome	2	4

(K/C/O-Known Case Of.) * More than one risk factors were associated with the patients.

The majority of the Patients were with age more than > 50 i.e. 54% followed by; Obese 42%; K/C/O Diabetes -38%; K/C/O Hyperthyroidism -28%; K/C/O Hypothyroidism -24%; Family History Thyroid Swelling-8%; K/C/O AFP Syndrome-4%.

Table 2: Distribution of the Patients as per the Histopathological diagnosis

Histopathological diagnosis	No.	Percentage (%)
Colloid adenomatous goitre	24	48
Adenoma-follicular	6	12
Primary hyperplastic goitre	4	8
Carcinoma-follicular	3	6
Papillary	2	4
Thyroiditis-lymphocytic	1	2
Colloid goitre with follicular adenoma	3	6
Colloid goitre with thyroiditis	4	8
Thyroid cyst	3	6
Total	**50**	**100**

Twenty-four of the cases studied had colloid adenomatous goitre. Three of the colloid goitre cases had associated follicular adenoma and 4 had associated thyroiditis. Six of the patient's studied had follicular adenoma. Five cases of carcinoma were detected. Out of which 3 were of follicular type and 2 cases had papillary type of carcinoma. Primary hyperplastic goitre was found in 4 cases. Four patients had colloid goitre associated with thyroiditis and a single patientwas showing evidence of thyroiditis.

DISCUSSION

The prevalence of goitre, diffuse and nodular, is dependent on the status of iodine intake of the population. In general, in iodine sufficient countries the prevalence of clinically palpable goitre is less than 4%. In countries with a previous deficiency corrected by universal salt iodination, elderly subjects may have a prevalence of approximately 10%. This can be attributed to lack of nutritional iodine in early adult life, as longstanding endemic goitres usually do not regress with iodine supplementation.[8] Smoking is also known to be goitrogenic, with cigarette smoke containing goitrogens including thiocyanates. Smoking may also exacerbate autoimmune thyroid disease (and possibly autoimmunity in general). The goitrogenic effect of smoking is most pronounced in people with intercurrent iodine or selenium deficiency.[9] Certain raw foods, such as soybeans, cassava and cruciferous vegetables, are lightly goitrogenic but their typical impact is only modest.[10] The normal thyroid gland is a fairly homogenous structure, but nodules often form within its substance. These nodules may be the result of growth and fusion of localised colloid filled follicles, or discrete adenomas or cysts. Thyroid carcinoma also typically presents as a nodule. Between 4% and 7% of the general population have a palpable thyroid nodule.[11] Around 30–50% of adults have a thyroid nodule visible on ultrasound.[12] The clinical presentation of thyroid cancer is usually as a solitary thyroid nodule or increasing goitre size. Although thyroid nodules are common, thyroid cancers are rare. Thyroid cancer is the most common malignant endocrine tumour and accounts for >90% of the cancers of the endocrine glands but constitute <1% of all malignancies registered in the UK.[10] The incidence of thyroid cancer is increasing. In 2001, data from Cancer Research UK showed 1200 new cases in England and Wales, with a reported annual incidence for the UK of 3.5 per 100 000 women and 1.3 per 100 000 men. The majority of the increase can be attributable to an increase in incidence of papillary thyroid cancer measuring ≤2 cm.[11] Papillary thyroid microcarcinomas (diameter <1 cm) are found in up to one-third of adults at post-mortem in population-based studies. In our study the

majority of the Patients were with age more than > 50 i.e. 54% followed by; Obese 42%; K/C/O Diabetes -38%; K/C/O Hyperthyroidism -28%; K/C/O Hypothyroidism -24%; Family History Thyroid Swelling-8%; K/C/O AFP Syndrome-4%. Twenty-four of the cases studies had colloid adenomatous goiter. Three of the colloid goitre cases had associated follicular adenoma and 4 had associated thyroiditis. Six of the patient's studies had follicular adenoma. Five cases of carcinoma were detected. Out of which 3 were of follicular type and a 2 cases had papillary type of carcinoma. Primary hyperplastic goitre was found in 4 cases. Four patients had colloid goitre associated with thyroiditis and a single patient had evidence of thyroiditis. Xi. Five cases of thyroid carcinomas were studied. There cases had follicular carcinoma and 2 had papillary carcinoma. Malignancy was found only in thyroid nodule and none of the multinodular goitre specimen on histo-pathology, showed evidence of malignancy. The age group varied from 20 to 50 years. Follicular carcinoma was detected in 3rd and the 4th decade, where papillary carcinoma was detected in 2nd and 5th decade of life. Out of the 5 patients, 4 patients were females and only one patient was male. These findings are in confirmation with Mark P. J. Vanderpump[15]

CONCLUSION

In our study the most common etiological factors observed were age more than >50, Obesity, Diabetes, Hyperthyroidism, Hypothyroidism, Family History, AFP Syndrome. The common pathological features observed were colloid adenomatous goitre, Follicular adenoma, Thyroiditis, carcinoma, papillary type of carcinoma, Primary hyperplastic goitre etc.

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