Research Article

Thyroid carcinomas and associated benign lesions- a hospital base study

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Abstract

Introduction: Thyroid cancers are fairly uncommon neoplasms, the annual incidence of which ranges from 0.5 to 10 cases per 1,000,000 population. The commonest thyroid malignant tumours are those of papillary carcinoma and follicular carcinoma followed by medullary, malignant and undifferentiated carcinoma. **Aims/ Objectives:** To determine the most common malignancy encountered and to identify the most common associated benign lesion. **Materials and Methods:** Fifty histopathologically diagnosed cases of thyroid malignancies were analysed retrospectively for the associated benign condition. A statistical analysis was done to determine the common association and the common malignancy encountered. **Observation/ Results:** of the fifty cases studied**,** 45 cases were papillary carcinoma, 4 cases follicular carcinoma and one case of medullary carcinoma. Among the 45 cases of papillary carcinoma 12 of them were papillary microcarcinoma. While thirty five cases of papillary carcinoma were associated with multi-nodulargoiter, 9 cases were associated with Hashimoto's thyroiditis and in one case the rest of the thyroid was normal. Among the 4 cases of follicular carcinoma 3 were associated with multi-nodular goitre and one with Hashimoto's thyroiditis. Medullary carcinoma was associated with Hashimoto's thyroiditis. **Conclusion:** Since most of the thyroid malignancies in our study were associated with multi-nodulargoiter and, as a significant number of cases were papillary microcarcinomas a vigilant sectioning of the specimen is to be done to identify the presence of neoplastic foci grossly. The findings of the study also warrants for a follow up of the patients who have under gone hemithyroidectomy for nodular goiter, as most of thyroid malignancies have indolent clinical course**.**

Keywords: Multi-nodular goiter, papillary carcinoma, Hashimoto's thyroiditis.

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INTRODUCTION

The incidence of the thyroid malignancy ranges from 0.9% to 13% in different parts of world. Such an incidence increases further if cases of occult carcinoma are also taken into consideration. The exposure to ionizing radiation and the availability of more sensitive diagnostic tests may be the possible explanations for a worldwide increase in the incidence of thyroid carcinoma. The commonest thyroid malignancies are papillary and follicular carcinoma. Less common are medullary, undifferentiated thyroid carcinomas and lymphoma. These tumourstend to be indolent and have an excellent prognosis[1]. Various studies have been done to establish an association between the benign lesions of thyroid with the variants of malignant tumors.

AIMS AND OBJECTIVES

To identify the most common thyroid malignancy encountered in our institution and to identify the most common associated benign lesion of thyroid.

MATERIALS AND METHODS

A total of 50 cases diagnosed as various types of thyroid malignancies on histopathology in the Department of Pathology at Father Muller Medical College, Mangalore over a period of 2 years were analyzed retrospectively. The hematoxyllin and eosin stained slides were reviewed and the commonest histopathological pattern of malignancy and associated benign lesion of the thyroid was noted. Analysis was then done to determine the

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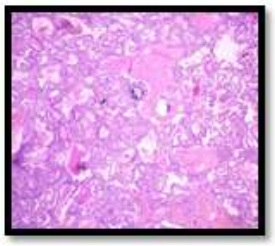
commonest thyroid malignancy and the commonest associated benign condition.

OBSERVATION AND RESULTS

Of the fifty cases studied**,** 45 cases were papillary carcinoma, 4 cases follicular carcinomaand one case of medullary carcinoma. Among the 45 cases of papillary carcinoma, 12(26%) of them were papillary microcarcinoma. While 35 cases of papillary carcinoma were associated with multi-nodulargoitre (figure 1A, B), 9 cases were associated with Hashimoto's thyroiditisand one case the rest of the thyroid was normal. Among the 4 cases of follicular carcinoma, 3 were associated with multi-nodulargoitre (figure 2A, B) and one with Hashimoto's thyroiditis. The case of medullary carcinoma was associated with Hashimoto's thyroiditis (figure 3A, B).



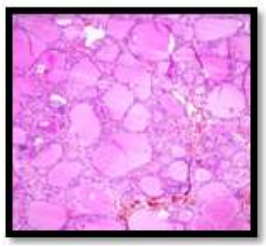


Figure 1A: A case of papillary carcinoma with **Figure 1B:** Associated multi-nodulargoitre in the psammoma bodies (HandE stain, 100X) same case (HandE stain, 100X)

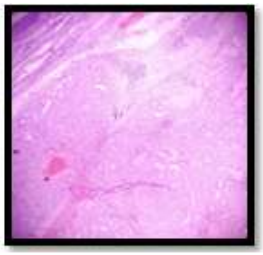


Figure 2A: A case of follicular carcinoma with capsular invasion (HandE stain, 40X)

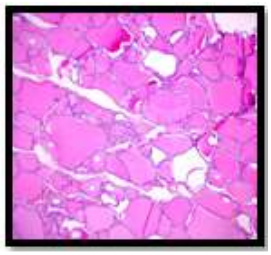


Figure 2B: Associated multi-nodulargoitre in the same case (HandE stain, 100X)

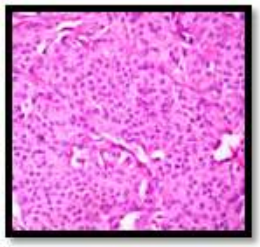


Figure 3A: A case of medullary carcinoma (HandE stain, 400X)

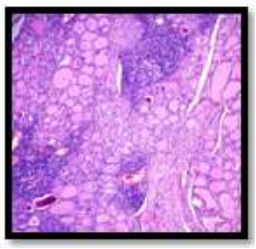


Figure 3B: Associated Hashimoto's thyroiditis in the same case (HandE stain, 100X)

DISCUSSION

Thyroid carcinomas are fairly uncommon and include disease types that range from indolent localised papillary carcinomas to the fulminant and lethal anaplastic disease[2].Papillary and follicular malignancies are well differentiated carcinomas of the thyroid gland and are among the most curable cancers[3]. Various genetic and environmental factors are implicated with the occurrence of papillary thyroid carcinoma with exposure to ionizing radiations being one of the important causes[4]. The association of autoimmune thyroiditis in the causation of thyroid malignancies has been controversial[5,6,7]. The present study had most of the patients belonging to the age group of 20-50yrs with a female preponderance similar to the study done by Elaraj *et al*[4]. In Elaraj *et al*. study and study by Sherman *et al*. it was also noted that the most common malignancy of thyroid was papillary thyroid carcinoma, similar to what was seen in present study[2,4]. Traditionally patients with multi-nodulargoitre were considered at less risk of malignancy than those with single nodule. However, the published reports show that the incidence of malignant tumours in patients with single nodule does not differ from those with multi-nodulargoitre. In a study done by TahaHasn *et al*. most of

the cases (68%) of papillary carcinoma thyroid were associated withmulti-nodulargoiter[8], a finding which was also seen in study done by Gandolfi*et al*[1]. and Hanumantappa *et al*[9]. In the present study78% of papillary thyroid carcinomas and 75% of follicular carcinomas were associated with multi-nodulargoiter. A significant number of cases of papillary microcarcinomas which were characterised by neoplastic papillary carcinoma nodule of <1 cm in diameter were seen in the present study. A study done by Boucek *et al*. also found an increase in the incidence of papillary carcinoma thyroid significantly due to an increase detection of the occult microcarcinomas[3]. It is found that a maximum number of papillary thyroid microcarcinomas remain latent and that most of them were diagnosed on autopsy or when operated for other benign thyroid conditions as seen in the present study[3,10].

CONCLUSION

Since most of the thyroid malignancies in the present study were associated with multi-nodulargoiter and as, a significant number of cases were papillary microcarcinomas a vigilant sectioning of the specimen has to be done to identify presence of neoplastic foci grossly. The findings of the study also warrants for a follow up of the patients who have under gone hemi thyroidectomy for nodular goiter, as most of thyroid malignancies have indolent clinical course.

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