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THYROID MALIGNANCY IN MULTINODULAR GOITER IN OUR SET UP

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ABSTRACT

AIM OF STUDY: Thyroid Malignancy in multinodular goiter,
STUDY DESIGN: Prospective observational study.
PLACE & DURATION: Two years study from January 2010 to January 2012 was conducted in People's University of Medical and health sciences Nawabshah.
PATIENTS & METHODS: The study comprises 100 patients. All were admitted from OPD. The patients were evaluated fully after history & examinations and specific investigations of thyroid profile, ultrasound, thyroid scan, FNAC, Biopsy, indirect laryngoscopy and general assessment. All patients with multinodular goiter were included and solitary nodule were excluded. Out of 100 patients 96 underwent surgery and tissue sent for histopathology.
RESULTS : In this study of 100 patients of multinodular goiter, 82 (82%) were female and 18 (18%) were male. The maximum number of patients were in age group 15-75 years. Regarding the histopathological results 8 (8%) patients showed malignancy in multinodular goiter. Papillary carcinoma seen in 5 (5%), follicular carcinoma in 2 (2%) and 1 (1%) in anaplastic carcinoma.
CONCLUSION: Thyroid malignancy is also seen in multinodular goiter, in which having a dominant nodule may lead to papillary, follicular and anaplastic carcinoma. Commonly treated with surgery by thyroidectomy and radioiodine substance.

KEY WORDS: Thyroid goiter, multinodular goiter, thyroid cancer

INTRODUCTION

Thyroid swelling usually presents as a lump in the neck which clinically may be simple toxic or malignant one. Malignancy is commonly seen in solitary swellings but multinodular goiter are not free from risk of malignancy. Thyroid malignancy is a common malignancy of the endocrine system.[1]. The international studies report the ratio of malignancy in multinodular goiter is 3% [2,3,] Malignancy of thyroid more commonly seen in females due to hormonal changes and reproductive factors may play role for developing goiter in females.[4,5,6]. Thyroid nodules and thyroid cancer occur more frequently in people exposed to radiation,[7,8]

The risk of malignancy in a euthyroid patient with a multinodules is estimated to be 3%-10% with a range of 2% to 10%[9]. Papillary carcinoma accounts for 30-40% of all thyroid malignancies[10,11]. Medullary carcinoma arise from para-follicular C-cells .and follicular carcinoma has poor survival as compared to papillary carcinoma and anaplastic carcinoma has grave prognosis.[12]

In majority of the cases, thyroid carcinoma presents with 'cold' nodules and 'hot' nodules. Low risk of malignancy seen in hot nodules comparing with cold nodules` but malignancy also seen in multinodular goiter .

FNAC and Biopsy is used to distinguish papillary, medullary, anaplastic, metastatic carcinoma and lymphoma with sensitivity of 91% .[13] The FNAC, Biopsy and Ultrasound are diagnostic tools[14].

PATIENTS & METHODS

It was a prospective study carried out at surgical wards of People's University of Medical and Health Sciences Nawabshah from January 2010 to January 2012. Detailed history, clinical examination and investigation were taken and recorded on a proforma designed for the study. Study variable used were age, sex, multinodularity, FNAC findings and histopathological results. 100 patients were included in the study with multinodular goiter. Solitary, diffuse goiters and physiological goiter and toxic goiters were excluded clinically as well as with help of thyroid scan. All the patients were investigated for TSH, T3, T4, Ultrasound, FNAC, Biopsy blood complete picture, x-rays chest and neck, thyroid scan, indirect laryngoscopy and general assessment.
Out of 100 patients, 96 underwent surgery and specimen sent for histopathology. Statistical package for social sciences (SPSS) version 10 was used for statistical analysis of the data.

RESULTS

This was a hospital based case series study of 100 patients, out of which 82(82%) were females and 18 (18%) were male. The maximum number of patients were in age group of 15-75 years with mean age of women 41 years and men of 47 years. (Table I). .
FNAC report were showed 92 pts were suffered in benign lesions 8 pts were suffered in carcinoma Table(11)
Out of 100 patients 96 patients underwent surgery while four pts un fit for surgery (Table III).
Histopathology reports were showed papillary carcinoma in 5 (%) cases, 4 females and 1 males, follicular carcinoma in 2 (2%) female and anaplastic carcinoma in 1 (1%) in female patient. , (Table IV).

DISCUSSION

Thyroid carcinoma is regarded as the most common and frequent endocrine malignancy with a variable geographic and ethnic incidence all around the world,[15] The overall risk was reported to be increasing world wide with changing characterstics. A long standing and unresolved issue is whether multinodular goitre is associated with carcinoma. The diagnosis of malignancy in multinodular goiter is made by different methods such as FNAC or surgical excision with biopsy, however the malignancy in multinodular goitre was reported to range from 4%-17%. [16,] Geographical and racial factors play important roles in the pathogenesis of multinodular goitre and associated carcinoma. A nodule harbouring malignancy in multinodular goitre can not be

TABLE 1

GENDER DISTRIBUTIONCTION IN MNG

Sex	No of Patients	%
Female	82	(82%)
Male	18	(18%)
Total	100	(100%)

TABLE 2

FINE NEEDLE ASPIRATION CYTOLOGY

TOTAL NO OF PATIENTS = 100

DIAGNOSIS	NO: OF PATIENTS
Papillary Ca	5
Follicular Adenoma	2
Anaplastic Ca	1
Suggestive Benign	78
Colloid Goiter	14
Total	**100**

TABLE 3

OPERATIVE PROCEDURES

No of Patients	Female Patients%	Male patients%	Operative Procedure
21	16 (16%)	5 (4%)	R.Lobectomy
18	15(15%)	03(3%)	L.Lobectomy
33	27 (27%)	06 (6%)	Sub total thyroidectomy
18	16(16%)	02 (2%)	Near total thyroidectomy
6	4 (4%)	02 (2%)	Total thyroidectomy

TABLE 4

HISTO PATHOLOGICAL DIAGNOSIS OF MALIGNANCY OUT OF 100 PATIENTS

DIAGNOSIS	Female	Male	Total NO: OF PATIENTS
Papillary Carcinoma	3	2	05
Follicular Carcinoma	2	0	02
Anaplastic Carcinoma	1	0	01
Total	**6**	**2**	**08**

distinguished clinically or sonogrphically, in order to obtain a FNAB from it, making early detection of malignancy a very difficult task, [17, 18]

However, various studies have shown that the risk is quite high in MNG also. Hanumanthappe M,B et al in his study total no of pts 100 out of 100, 85% were females and 15% were males , incidence of malignancy was 10% in multinodular goiter and common malignant tumor is papillary carcinoma. [19] Benzerti et al in his study incidence of malignancy in multinodular goiter was 9.5% .[20] Prades et al in his study incidence of malignancy in multinodlar goiter was 12.2% . [21]. Memon W, et, al in his study incidence of thyroid carcinoma in multi-nodular goitres was 8 % to 10 % .[22] In this study total no of patients was 100. Out of 100 patients, 82% were female 18% were male, Female to male ratio was 4.2 / 1 & malignancy was found in 8 (8%) patients ,papillary carcinoma was 5% , follicular carcinoma was 2% , anaplastic carcinoma was 1%.

Malignancy was significantly commoner in females due to multinodular goiter and generally occurred in older age groups . Papillary carcinoma was the most common thyroid tumors followed by follicular carcinoma, Papillary carcinoma was more prevalent in third, fourth and fifth decades of life while follicular and anaplastic carcinomas were more frequent after the fifth decade of life.

Ultrasound, Fine Needle Aspiration cytology in thyroid tumors is now considered as an important diagnostic tools in the investigation a case of multinodular goiter. In the current study FNAC confirmed the diagnosis of thyroid carcinoma in 81% of patients, so that they were subjected directly to thyroid operation. The positive FNAC in range of 70-79% is similar to other studies. [23]

CONCLUSION

Malignancy of thyroid is a common problem all over the world & is commonly seen in females, papillary carcinoma being the most common type in females as well as in males. Papillary carcinoma was prevalent in third decade of life whereas follicular carcinoma was seen in fifth decade of life. Thyroid malignancy was seen in multinodular goitre having dominant nodule (cold nodule). Patients were treated by surgery (thyroidectomy) and Radioisotope scan.

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