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THYROID NODULE : SPECTRUM OF ITS CLINICAL MANIFESTATIONS

General Surgery

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ABSTRACT

INTRODUCTION: The name THYROID is derived from the Greek description of a shield shaped gland in the anterior aspect of the neck[1].Its management of diseases forms a major share of head and neck surgery. Thyroid nodules may be benign or malignant and may present along with complications. An attempt has been made in the present study to study the spectrum of clinical manifestations of patients with thyroid nodule.

METHODS AND MATERIALS : Total of 60 patients (>12years) were selected, in a span of 18 months, who had attended Outpatient Department in Assam Medical College with thyroid nodule, clinically, examined thoroughly.

RESULTS: In our study, only swelling in front of neck was present in 43(71.66%) patients, accompanied by pain in 7 patients(11.67%), respiratory difficulty in 5 patients(8.33%), dysphagia in 3 patients(5%) and change in voice in 2 patient(3.33%). **2** cases (3.33%) presented with hypothyroidism and 1case (1.67%) with hyperthyroidism

CONCLUSION: The malignancy rate was 18.33% which was much higher .It is mainly because the people here are less conscious and present for treatment only when they face problems in their daily day to day activities due to the swelling. Hence, long standing thyroid swelling led to higher malignancy rate.

KEYWORDS:

Thyroid Nodule

INTRODUCTION

The name THYROID is derived from the Greek description of a shield shaped gland in the anterior aspect of the neck[1] .It is the largest gland ,weighs about 25 grams and is easily accessible for physical examination because of its superficial location.

The management of diseases of thyroid form a major share of head and neck surgery. The term "goiter" is used to describe generalized enlargement of the thyroid gland. A discrete swelling (nodule) in one lobe with no palpable abnormality elsewhere is termed an isolated (or solitary) swelling. Discrete swellings with evidence of abnormality elsewhere in the gland are termed dominant.[2]

Solitary nodule structurally and morphologically can be divided as benign (Colloid , Hyperfuctioning nodule) and malignant (Papillary ,Follicular, Medullary and Anaplastic)[1].The question of malignancy in a nodular goitre is controversial. It has been claimed that malignant change is prone to occur frequently in a solitary nodule than in a multinodular goitre.

Thyroid nodules may also present with complications like tracheal obstruction, which may be due to gross lateral displacement or compression in a lateral or antero posterior plane by retrosternal extension of goiter, secondary thyrotoxicosis and carcinoma.[2]

Surgery remains the mainstay of treatment for thyroid nodule. The vast majority of operations for the solitary nodules are therefore performed for benign nodule as well as malignant.

The thyroid nodule is frequently met in our practice in Assam Medical College and Hospital, Dibrugarh ,so that, an attempt has been made in the present study ,to study the spectrum of clinical manifestations of patients with thyroid nodule.

METHODS AND MATERIALS

The present study was carried out to study thyroid nodule and to evaluate the spectrum of clinical manifestations in the Department of General Surgery, Assam Medical College and Hospital, Dibrugarh, for a period of 18 months. Total of 60 patients were selected, who had attended Outpatient Department in Assam Medical College with thyroid nodule

After taking ethical clearance and informed consent, all the patients were taken in the study who attended the Outpatient Department with the complaints of swelling in front of neck which moves on deglutition. All the cases were carefully examined and investigated to find out the pathologies. There were 60 cases who had nodular thyroid disease and were included in the study. Criteria for selection of cases were:

Inclusion criteria: All patients >12 years age having thyroid nodule on clinical examination

Exclusion criteria:
All patients < 12years of age

Names and address of the patients were recorded for the identity of the patient. Age and sex of the patient were also recorded and complete history was taken for swelling in front of neck with duration and rate of growth and other associated complaints.

Local examination of the swelling was done to see its position, size, shape, consistency, tenderness, mobility, position of trachea and whether it moves with deglutition, and the signs of thyrotoxicosis. An ear, nose and throat examinations were done. A thorough systemic examination was done to find out any metastatic signs in case of malignancy

The cases were then followed up with the required pathological and radiological investigations and were finally treated accordingly.

STATISTICAL ANALYSIS

The percentage of all the clinical findings that the patient presented with were calculated.

RESULTS

The present study shows maximum of 24 (40%) patients in age group of 31 to 40 years, followed by 14 cases (23.33%) in the group of 41 to 50 years. The mean age in this study was 40.54years. In our study the male to female ratio was 3:1which is comparable to other study reports.

Only swelling in front of neck was present in 43(71.66%)patients. There were 7 patients(11.67%), who presented with pain over thyroid swelling, 5 patients(8.33%) complained of respiratory difficulty , 3 patients (5%) had difficulty in swallowing and 2 patient(3.33%) had change in voice.

The swelling varied in consistency from cystic to solid. On clinical examination, 7 (11.67%) cases were cystic, 24 (40%)cases were solid and 29 (48.33%) cases were mixed.

In the study, thyroid swellings involved the right lobe in 34 (56.67%) cases ,bilateral in 12 (20%)cases. **2** cases (3.33%) presented with hypothyroidism and these cases were taken up for the study after treatment of the condition with thyroxine and other were in euthyroid

state. 1case (1.67%) presented with hyperthyroidism. Pulse rate was measured during day time and during sleep time, having, only one patient with hyperthyroidism showing tachycardia.

The study showed 49 cases to be benign and 11 cases to be malignant, thus giving a high malignancy rate of 18.33%.Histopathological report was taken as final.

Spectrum Of Clinical Manifestations

PRESENTING COMPLAINTS	NUMBER OF PATIENTS	%
Neck Swelling	43	71.67
Neck Swelling plus pain	7	11.67
Neck Swelling plus dyspnoea	5	8.33
Neck Swelling plus dysphagia	3	5
Neck Swelling plus hoarseness	2	3.33
Total	60	

DISCUSSION

Sixty cases were taken for study in the Department of Surgery, Assam Medical College and Hospital, Dibrugarh.

AGE AND GENDER:

The present study shows maximum number 24(40%) of patients were in age group of 31 to 40 years, with the mean age being 40.54years.

Andre J.Van Herle and Amy J.Lutz stated that after the age of 65,a growing nodule has a good chance of being malignant, whereas in a children under the age of 14, a thyroid nodule is likely to be malignant in 50% of cases.

Thyroid nodules are more common in women than in men by a ratio of about 4 to 1, and increase in frequency with age and with decreasing iodine intake .[3] Our study showed the ratio to be of 3:1.

GEOGRAPHICAL DISTRIBUTION, SOURCE OF DRINKING WATER AND DIET:

Our study was done in the eastern part of the country,a goiter endemic area where majority of the people consume ground water.

According to **Kapil and Singh** (Asian Network for Scientific Information 2003): 18 districts have been declared to be endemic to iodine deficiency disorder in Assam.[4]

Arup Sengupta, et al(2012) concluded that Incidentally revealed thyroid swelling was quite high in eastern India for which we need a consensus line of intervention.[5]

PRESENTING COMPLAINTS:

Only swelling in front of neck was present in 43(71.66%) patients, accompanied by pain in 7 patients(11.67%),respiratory difficulty in 5 patients(8.33%), dysphagia in 3 patients(5%) and change in voice in 2 patient (3.33%).

The pain over the swelling could be due to sudden haemorrhage or degeneration inside the nodules. The difficulty in swallowing and in breathing was most probably due to the thyroid swelling pressing over the trachea and oesophagus and is collectively referred to as pressure symptoms

In 1982 S.K. Bhansali had examined 600 cases and reported pain in 78 (13%), dysphagia in 70 (11.67%) of cases.[6]

Albareda M et al stated that the frequency of Upper Airway Obstruction in subjects affected by goiter with endothoracic enlargement was lower than that described for goiter patients, and there were no clinical or radiological indicators to establish its presence.[7]

Alfonso A et al did a study on 273 patient to find 33% with tracheal or esophageal compression.[8]

DURATION, CONSISTENCY AND LOCATION OF SWELLING

Our study showed 12 cases(20%) whose thyroid swelling were of less than 6 months,20 cases (33.33%) between 6 months to 2 yrs and 28 cases (46.67%) of more than 2 years.

The swelling varied in consistency from cystic to solid. On clinical examination, 7 (11.67%) cases were cystic, 24 (40%)cases were solid and 29 (48.33%) cases were mixed.

In 1977, Tunbridge WMG, Evered DC, Hall R, et al; reported that in patients with a single palpable nodule, 20-48% had additional nodules as detected by ultrasonography.

Konstantinos Michalopoulos et al in his study found that patients with advanced malignancy of the upper aerodigestive tract can present with a thyroid nodule.[9]

Shereen Ezzat, MD; (1994) did a study concluding that palpable nodules were identified in 21 (21%) of 100 subjects, with nine solitary nodules (9%) and 12 multiple nodules (12%). In comparison, only 33 subjects were found to be free of any nodules by ultrasonography. Of the 67 subjects with abnormal ultrasound findings, 22 had solitary nodules (22%) and 45 had multiple nodules (45%). The prevalence of nodules was greater in women (72%) than in men (41%) (P<.02). A concordance rate of 49% was noted between ultrasound and findings by palpation.[10]

Khoo ML et al did a study on calcified thyroid and concluded that When calcification is noted within a solitary thyroid nodule, the risk of malignancy is very high.[11]

In our study, thyroid swellings involved the right lobe most of the time.

G. Messaris, et al concluded that the right lobe was more frequently involved (57.6 per rent) than the left.[12]

THYROID FUNCTION TEST: 2 cases (3.33%) presented with hypothyroidism and 1case (1.67%) with hyperthyroidism. Mary Jo Welker et al in 2013,found that the majority of thyroid nodules were asymptomatic. Most persons with thyroid nodules were euthyroid.

PULSE RATE: In our study ,only one patient with hyperthyroidism showed tachycardia. According to Ingabar and Woeber (1974), tachycardia was almost always present in thyrotoxicosis even at rest.[13]

LARYNGOSCOPIC EXAMINATION: In our study, only 1 patient with large thyroid swelling showed diminished vocal cord movement. Wade (1960) stated that, to know the status of recurrent laryngeal nerve, the need of laryngoscopic examination arose. The reported incidence of recurrent.laryngeal nerve palsy varies widely from 0-14 %[14]

Jane L. Harding et al did a study on Horner's syndrome in association with thyroid and parathyroid disease and stated that the presence of preoperative Horner's does not necessarily indicate an underlying malignancy.[15]

CONCLUSION

In our study, only swelling in front of neck was present in 43(71.66%) patients, accompanied by pain in 7 patients(11.67%),respiratory difficulty in 5 patients(8.33%), dysphagia in 3 patients(5%) and change in voice in 2 patient(3.33%). **2** cases (3.33%) presented with hypothyroidism and 1case (1.67%) with hyperthyroidism

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