CLINICAL STUDY OF NECK SWELLINGS

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ABSTRACT

BACKGROUND

Neck swelling is a common presentation in the course of number of diseases. This condition is generally not a disease by itself, rather it may be a symptom of many possible underlying problems.

MATERIALS AND METHODS

The study includes 100 patients with neck swelling attending the Surgical Outpatient Department of Government Hospital, Guntur. Patient's data was recorded. Samples of FNAC were taken from the swelling and sent for cytology. Ultrasonography was performed for the neck swelling and results were interpreted in correlation with cytology.

RESULTS

Thyroid lesions accounted for the majority (57%) followed by lymph node enlargement (27%). Benign lesions were most common, of which thyroid goitres more common in female sex were found. The most common lymph nodal lesion is tuberculous/granulomatous lymphadenitis. In toto malignant lesions accounted for 23% of cases and their incidence rose sharply after 4th decade. The most common benign lesion was nodular goitre, inflammatory lesion was thyroiditis, most common malignant lesion was metastatic secondaries of neck and papillary carcinoma thyroid which was more common in young females.

CONCLUSION

The most common single pathological diagnosis in our study was found to be goitrous lesion of thyroid, most likely attributed to the endemicity of fluorosis in the catchment area of the hospital. High index of suspicion of malignancy needs to be borne in mind in dealing with a lymph node swelling in elderly.

KEYWORDS

Neck Swelling, Thyroid Lesions, FNAC, Ultrasonography.

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BACKGROUND

Neck swellings are frequently encountered in the clinical practice and the cause is usually benign. In general practice inflammatory lymph nodes are the most common cause,⁽¹⁾ mostly with tuberculous aetiology in Indian environment due to malnourishment and poor socioeconomic status. However, the lump may be the presentation of more serious disease (ex-malignancy or chronic infection) and so a thorough assessment and diagnosis are essential. If there is any doubt as to the cause, then the patient should be reviewed and/ or referred for specialist assessment. Patients over the age of 40 are more likely to have a neoplastic cause. Inflammatory, congenital and traumatic causes are more common in younger patients, but neoplasm should still be borne in mind.⁽²⁾

Fine needle aspiration cytology (FNAC) is a simple, quick and cost effective method to sample superficial masses found in the head and neck.⁽³⁾

The technique is performed in the outpatient department and causes minimal trauma to the patient. An early differentiation of benign from malignant pathology is beneficial, as it greatly influences the planned treatment.⁽⁴⁾ It can be both diagnostic and therapeutic in cystic swellings.⁽⁵⁾ It is helpful for the diagnosis of salivary gland tumours where it can differentiate between a malignant and a benign tumour with over 90% accuracy.⁽⁶⁾

Two new dimensions of medical practice per our environment are non-invasive diagnosis and cost control. Ultrasonography qualifies eminently in regards. While there have been many reports on its use in thyroid diseases, there are few reports on its general use in the diagnosis of head and neck diseases. Ultrasonography gives accurate information as to the form and content of cervical masses. It enables us to distinguish solid from cystic lesions. It may alert us to the probabilities of malignant versus benign nature of neck swellings.

This study is an effort to assess the incidence of various swellings in neck through clinical examination and usefulness of FNAC as well as ultrasonography.

MATERIALS AND METHODS

Design

A hospital-based descriptive study.

Setting

Patients coming to outpatient department of general surgery of Govt. General Hospital, Guntur.

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Duration

December 2014 to October 2016.

Sample Size

100 Cases of patients in outpatient Department of General Surgery, GGH, Guntur with neck swellings were studied.

Methodology/ Inclusion Criteria

Patients of age > 15 yrs. presenting with asymptomatic/symptomatic neck swellings to the outpatient department of Government General Hospital, Guntur.

Exclusion Criteria

Patients unwilling for inclusion into study.

Method of Collection of Data

Data was collected using a detailed well-designed proforma. Informed written consent was taken from all patients. According to proforma detailed history was taken, thorough examination was carried out and basic relevant investigations were done in all the patients to arrive at a provisional diagnosis.

All the cases of neck swellings were sent to Department of Pathology, GGH, Guntur where fine needle aspiration biopsy was done 21 - 23 gauge needle attached to the 10 mL plastic disposable syringe.

The patient was also investigated by ultrasonography of neck to determine the position of the swelling and its relation to vital structures and other important features of the swelling.

Statistical Analysis: Data was entered using Microsoft Excel 2010 version and analysis using Epi Info version 7. Numerical data was presented in mean and standard deviation and categorical variables in percentages and proportions.

RESULTS

Out of the total 100 patients, there were 39 males and 61 females showing a female preponderance (1.56: 1). Age ranged from 15 - 84 years, the mean age being 41.85 years.

Tissue of Origin of Lesion

Of the 100 neck swellings when categorised based on tissue of origin, there is clear preponderance of thyroid swellings accounting to 57% followed by swellings of lymph nodes 27%, then 15% contributed by soft tissue swellings (lipoma, abscess, soft tissue tumours). Lastly, with 1% incidence is salivary gland swelling.

Type of Lesion

Based on type of lesions the data regarding neck swellings was analysed and it was deduced that most of the neck swellings were benign (43%) followed by inflammatory (34%) swellings. Malignant swellings occupied the 3rd place amongst the neck swellings.

Type of Lesion	Number	Percentage
Inflammatory	34	34%
Benign	43	43%
Malignant	23	23%
Total	100	100%

Table 1. Based on Type of Lesion

Pathological Diagnosis

The most common single pathological diagnosis was Goitrous lesion of thyroid accounting 38% of cases followed by Tuberculous lymphadenitis (11%). Most common malignant lesion was metastatic secondaries of neck and papillary carcinoma thyroid, which was more common in young females. In toto malignant lesions accounted for 23% of cases and their incidence rose sharply after 4th decade. In segment of people with HIV positive status, which occupied 10% of the sample. TB lymphadenitis was more common (70%).

Analysis has revealed that tubercular aetiology of lymph nodes looked to be more common in males (10: 1). Goitrous lesions of thyroid showed a female preponderance (8.5: 1). Malignant lesions of thyroid, especially papillary carcinoma appeared to be more common in females.

Tissue of Origin	Pathology	Total
Lymph Nodes	TB/ Granulomatous LN	11
	Reactive lymphadenitis	4
	Non-Hodgkin's lymphoma	6
	Hodgkin's lymphoma	1
	Metastatic deposit to LN	6
Thyroid Lesions	Cystic	2
	Goitre	38
	Thyroiditis	9
	Malignant	8
Soft Tissue	Lipoma	6
	Abscess	7
	Spindle cell tumour	1
Salivary Gland	Mucoepidermoid carcinoma Submandibular gland	1
Total		100

Table 2. Incidence based on Pathology

DISCUSSION

Most of the catchment of the Government General Hospital is from the rural areas. The people from these rural areas have low socioeconomic status and mostly uneducated. Most of the males regularly chew tobacco and smoke. Mostly females are housebound and ignorant about their health and nutrition. So, infectious and malignant conditions constitute a significant proportion of health problems among them.

The present study was conducted in the Department of General Surgery, GGH, Guntur from December 2014 to October 2016. There were 61 female patients and 39 male patients with M: F ratio of 1: 1.56. There was clear female preponderance. Although, there were many clinical studies that reported uneven data regarding gender distribution, this study was comparable to the study of Modi et al,⁽⁷⁾ Soni et al⁽⁸⁾ and Ahmad et al⁽⁹⁾ whose studies showed female preponderance. The youngest patient was 15 yrs. old and oldest was 84 yrs., mean age being 41.5 yrs. Age distribution of the swellings when assessed showed clustering of the lesions from the age group of 20 yrs. to 40 yrs. in the active period of one's lifetime. This could be because of the physiological demand that could not meet the daily demands of the patients who are mostly undernourished manual labourers below poverty line. This study has results comparable to the study done by Hitenderbasista et al⁽¹⁰⁾ and Manjula et al.⁽¹¹⁾ The inflammatory and benign lesions were found to be most common below the age of 40 yrs. The

prevalence of malignant lesions rose sharply after 4th decade, which is expected as the same happens in rest of the body.⁽¹²⁾

Total of 100 neck swellings were evaluated, out of which 57 swellings were of thyroid origin, 27 were of lymph nodal origin, 15 were of soft tissue origin and 1 was of salivary gland origin. Present study showed clear preponderance of thyroid swellings over lymph nodal swellings. Though many other studies had lymph nodal swellings in greater proportion,⁽⁹⁾⁽¹¹⁾⁽¹³⁾ present study showed thyroid swellings in dominant proportion, that too in female sex. This study was comparable to study done by Hitenderbasista et al.⁽¹⁰⁾ where thyroid was the most common tissue of origin of lesion.

The most common single pathological diagnosis was Goitrous lesion of thyroid (38%) followed by Tuberculous affection of lymph node (11%). Our results were comparable to the study by HitenderBasista et al.⁽¹⁰⁾ Many of the other studies in the literature showed predominance of tubercular lymphadenitis as in studies by Ahmad et al.⁽⁹⁾ Garima Gupta et al.⁽¹³⁾ and reactive lymphadenitis in study by Manjula et al.⁽¹¹⁾ However, the incidence of Tubercular lymphadenitis in our study 11% is still comparable to studies of Manjula et al.⁽¹¹⁾ 16.84% and Jindal et al.⁽¹⁴⁾ 19.84%.

Our Government General Hospital caters most of the patients from fluorosis endemic areas. This might be the reason for higher prevalence of iodine deficiency disorders, such as thyroid goitre. The fluoride endemicity coupled with higher malnutrition and ignorance about health in females might prove as the reason for female gender preponderance of neck swellings.

The inflammatory lesions contributed to 34% of cases in the present study. This is in contrast to 74.66% in study by Garima Gupta et al.⁽¹³⁾ the reason being the predominance of benign thyroid lesions in the present study. Tubercular affection of lymph node and abscess, i.e. the infective ones (53%) occupied the majority of inflammatory lesions, malnutrition and health ignorance the most plausible reasons.

In present study, malignant lesions comprised 22% of the neck masses. Frequency of incidence in different studies varies from 7.5% to 38.6%.^{(15),(16),(17)} Lymph node malignant lesions comprised of Metastatic deposits, Hodgkin's and Non-Hodgkin's lymphoma. Metastatic deposits to the lymph nodes were mostly from squamous cell carcinoma elsewhere. Thyroid malignancies were mostly papillary carcinomas (80%), which were found to be more common in females < 40 years. Among the salivary gland lesions, one case of mucoepidermoid carcinoma was reported. Our results of thyroid and salivary gland malignancies were found similar to the study of Jindal et al.⁽¹⁴⁾

Lipoma was found to be the most common benign soft tissue lesion of neck (6%). It could be considered similar to the studies of Manjula et al and Jindal et al.^{(11),(14)}

CONCLUSION

The most common single pathological diagnosis in our study was found to be Goitrous lesion of thyroid, most likely attributed to the endemicity of fluorosis in the catchment area of the hospital. High index of suspicion of malignancy

needs to be borne in mind in dealing with a lymph node swelling in elderly.

Fine needle aspiration cytology clubbed with ultrasonography offers simple methods of diagnosis of neoplastic and non-neoplastic lesions in the neck to confirm clinical diagnosis. It can be performed as an outpatient procedure without complications. The procedure is acceptable to most of the patients. There is no need for anaesthesia and speedy results are available.

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