

Clinicopathological Features of Goiter In Abakaliki Nigeria

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ABSTRACT

INTRODUCTION: The prevalence of goiter is greater in countries affected by moderate or severe iodine deficiency, where it is said to be endemic. Thyroid swellings are four times more common in females. Most thyroid swellings are benign, a wide variation is observed in malignancy; 5% of clinical thyroid nodule is malignant while 8% to 20% surgical thyroid specimens are malignant. Fine needle aspiration cytology (FNAC) and ultrasonography are very useful tools in making preoperative diagnosis. Preoperative indirect laryngoscopy is important to assess the positions of the vocal cord and for medicolegal reasons. When treatment is considered, patients performance status, goiter type, success related to treatment option and regional trends are usually influential.

AIM: To study the clinicopathological features of goiter and its surgical treatment in Abakaliki Nigeria.

METHOD: This was a retrospective study. Total of 28 cases of goiters were studied. Patients aged 17years to 65years, of both sexes with complaints of anterior neck swelling were included. Patients were subjected for clinical examination, neck ultrasonography, thyroid function test, fine needle aspiration cytology (FNAC) and indirect laryngoscopy. Patients were accordingly treated with medical and surgical modes of treatment. All operated specimens were sent for histological evaluation.

RESULTS: Of all cases, 24 (85.7 %) cases were females and 4 (14.3%) cases were males. All cases presented with anterior neck mass. Twenty two (78.6%) cases were simple multinodular goiter, 3 (10.7%) cases were toxic goiters 3 (10.7%) cases were suspected to be malignant. Fine needle aspiration cytology (FNAC) showed 25 (89.3%) benign cases and 3 (10.7%) suspected cases of malignancy. Subtotal thyroidectomy was done for all benign cases and total thyroidectomy for suspected cases of malignancy. All operated specimen underwent histopathological examination of which 26 (89.3%) cases were benign and 2 (10.7%) cases were malignant.

CONCLUSION: In Abakaliki, Nigeria the pathological presentation of goiter is usually benign and clinical feature is predominantly of simple goiter.

KEY WORDS: Goiters, Clinical examination,

INTRODUCTION

The prevalence of goiter is greater in countries affected by moderate or severe iodine deficiency, where it is said to be endemic¹. Thyroid swellings are four times more common in females². Most thyroid swellings are benign, a wide variation is observed in malignancy; 5% of clinical thyroid nodule is malignant while 8% to 20% surgical thyroid specimens are malignant¹. Fine needle aspiration cytology (FNAC) and ultrasonography are very useful tools in making preoperative diagnosis². Preoperative indirect laryngoscopy is important to assess the positions of the vocal cord and for medicolegal reasons. When treatment is considered, patients performance status, goiter type, success related to treatment option and regional trends are usually influential².

Long standing goiters are more prone to developing malignant transformation due to prolonged stimulation by elevated thyroid stimulating hormone (TSH)³. Some goiters are hugely enlarged either by negligence on the part of the patient or lack of appropriate health care facilities around the patients resident³. Benign goiters have a good prognosis. However all goiters should be monitored by clinicopathological examinations for possible malignant transformations⁴. Fortunately this risk is low but rises in radiation exposures⁴.

In this study we would like to share our experience in thyroid surgery in our center, analyzing the clinicopathological features and the surgeries offered to them

MATERIALS AND METHODS

Our study was a retrospective analysis of hospital records and the operative records of patients who underwent thyroid surgery at our center from the period between 2014 and 2017. All the preoperative evaluations in terms of duration of symptoms, presentation, progression of goiter and other symptoms favoring malignant transformation of the goiter were gotten. Clinicopathological findings of the patients were analyzed using thyroid function test, cervical and intra thoracic radiograph anterior/posterior/lateral views, fine needle aspiration cytology (FNAC), neck ultrasound and indirect laryngoscopy. FNAC was performed using 25 gauge needle. The FNAC results were categorized as:

Unsatisfactory/inadequate specimen, benign, follicular lesion, suspicious and malignant like the classification given by British Thyroid Association (BTA). All cases had surgery, subtotal thyroidectomy for benign and total thyroidectomy for suspected malignant lesions. Resected specimens were subjected for final histopathological result.

RESULTS

During the study period 28 thyroid surgeries were performed in our center. The commonest clinical presentation was an anterior neck swelling in all the patients (100%). Twenty two cases were of benign features, three cases had in addition toxic symptoms and three cases of clinical suspicion for malignancy in terms of discreet swelling and isolated thyroid nodule. Of all cases, 24 (85.7 %) cases were females and 4 (14.3%) cases were males with female to male ratio of 6:1. The age of the patients ranged from 17-65years, with mean age of 46.27years (Table 1). Among these patients, 22 (78.6%) cases were simple multinodular goiter, 3 (10.7%) cases were toxic goiters 3 (10.7%) cases were suspected to be malignant. Fine needle aspiration cytology (FNAC) showed 25 (89.3%) benign cases and 3 (10.7%) suspected cases of malignancy. Neck ultrasound showed thyroid sizes ranging from 25-100cm³ with mean size of 52cm³ and no lymphadenopathy noted. Indirect laryngoscopy was done for all patient prior to surgery which showed normal positions for the vocal cord (100%). Thyroid function test were within normal in 25(89.3%) cases while 3(10.7%) cases had throtoxicosis (raised T3/T4, low TSH). Subtotal thyroidectomy was done for all benign cases and total thyroidectomy for suspected cases of malignancy. All operated specimen underwent histopathological examination of which 26(92.9%) cases were benign and 2 (7.1%) cases were malignant.

The clinical features were described in Table 2.

Histological examination revealed benign lesions in 26 cases of which 17(60.7%) patients had colloid nodule. Among the malignant cases all were follicular (Table 3)

Table 1: Patient Characteristics

SEX	POPULATION	PERCENTAGE
Male	4	14.3%
Female	24	85.7%
AGE		
15-24	3	10.7
25-34	7	25
35-44	4	14.3
45-54	3	10.7
55-64	6	21.4
65-74	5	17.9
OCCUPATION		
Student	3	10.7
Farmer	15	53.6
Civil Servant	10	35.7



Fig 1: Simple multinodular goiter

Table 2: Clinical Features Observed in Patient with Goiter

Clinical features	Frequency	Percentage(%)
Anterior neck swelling	28	100
Dysphagia	8	28.6
Dyspnea	6	21.4
Dysphonia	4	14.3
Pain	2	7.1
Weight loss	4	14.3
Hoarseness	0	0
Cervical lymphadenopathy	0	0
Signs of toxicity	3	10.7



Fig. 2: An exposed multinodular gland

Table 3: Investigation

INVESTIGATIONS	Thyroid volume (cm ³)	FREQUENCY	Percentage (%)
Ultrasound report FNAC	25-50	8	28.6
	51-75	10	35.7
	76-100	10	35.7
	Inadequate	0	
	Benign	25	89.3
	Follicular	1	3.6
	Suspicious	2	7.1
	Malignant	0	
HISTOPATHOLOGY			
PTC		0	
FTC		2	7.1
MTC		0	
OTHERS		0	



Fig. 3: Immediate post-operative wound

DISCUSSION

In this study, the patients age were between 15years to 74years with mean age of 46.27years. This mean age is comparable with the work of Ram M et al². Who reported highest occurrence of goiter at a mean age of 4th decade of life.

In the present study goiters were seen more in females than males, in the ratio of 6:1. Medeiros-Neto G⁷ reported a ratio of 4;1 while Ram M et al² stated in his book a ratio of 13: 1.

FNAC is a simple, cost effective, less traumatic, reliable investigation in the diagnosis of most of thyroid nodules. It helps in treatment planning and better results are gotten when performed by an experienced pathologist⁵. FNAC also has limitation of unable to differentiate follicular adenoma from carcinoma⁵. The sensitivity, specificity and positive predictive values of FNAC are 86%, 85% and 58% respectively⁶.

Ultrasound is very useful in the diagnosis of goiter type, no feature is pathognomonic but malignant goiters can show hypoechoic solid lesion and absence of halo sign⁶. It has a sensitivity, specificity and predictive values of 74%, 83% and 51% respectively⁶. It is important in determining the strength of indication for FNAC

FNAC and ultrasound are complimentary.

Multinodular goiter is the most common of all the disorders of the thyroid gland⁷. The histological appearance of a typical specimen shows a normal homogenous parenchyma structure deformed by presence of nodules of varying sizes. It can be well encapsulated in follicular adenoma to poorly defined margins⁷. It can have a colloid rich nodules as noted in our center or degenerative cystic structures. Often there is extensive fibrosis, and calcium may also be deposited while scattered between nodules is areas of normal thyroid tissues and focal lymphocytic infiltrations⁷.

The most common lesions in most of the reviewed studies were benign and most common was multinodular goiter. This corresponded with what was noted in the study.

Follicular carcinoma was the common malignancy in our study.

CONCLUSION

In Abakaliki, Nigeria the pathological presentation of goiter is usually benign and clinical feature is predominantly of simple goiter. Follicular thyroid cancers are seen more often than other thyroid cancers.

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