



Evaluation of cases of Goiter admitted over period of one year which were admitted in our hospital

KEYWORDS

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ABSTRACT The purpose of study is to evaluate the various aspect of thyroid swelling ---

Age/sex distribution comparing with clinical diagnosis with help of Ultrasonography, FNAC, HPR studies, detect incidence of vocal cord involvement, study post op complication-immediate or late.

Introduction--

There are different disease of thyroid gland—

Classified as—

A) NONTOXIC —1. Colloid Goiter 2. Multinodular
3. Solitary Nodule

B) TOXIC—MNG/Solitary Nodule, Carcinoma Thyroid, Thyroiditis, Thyroid Abscess

I have collected 30 cases of goiter which were diagnosed and treated in 1 year duration in our surgery department retrospectively. They were analyzed with USG /FNAC, IDL .

Modes of management of thyroid disorder varies with diagnosis. There is difference between clinical and histopathological diagnosis and most of treatment based on

CLINICAL, FNAC, USG finding which may differ from HPE diagnosis. This will expose limitation of above mode of investigation. Recent trends in management of thyroid swelling---ref from medlars

Control of thyroid growth controlled by TSH receptor which are recently characterized as G protein coupled transmembrane receptors.

Peripheral action of thyroid hormone better understood by their interaction with thyroid receptor.

Thyroid neoplasm detected by proto oncogene and tumor suppressor genes.

By way of cytometry, karyotyping in situ hybridization analysis, two clones associated with hyperactivity—clinical and HPE.

Chromosomal abnormality in two out of 10 cases at 46,xx,t(5/19) in 87% cases of diffuse goiter. in situ hybridization technique showed hidden trisomies of clonal origin.

Aims and objective---

- To Study Age/Sex Distribution Of Goiter
- To Study Differential Diagnosis Of Goiter With Help Of FNAC, USG Scan, MRI Scan
- Identify Toxic And Nontoxic Goiter
- Study Different Modes Of Management
- Study Post Op Complication
- Clinico Pathological Co Relation

Material and methods:-

30 cases of clinically diagnose enlarged and palpable gland were studied retrospectively. All these cases were studied through indoor admission to different surgical units. No specific criteria was employed for selection of patient.

All patients were subject to detailed history with special note to age, sex place of residence and occupation to see physiological stress.

While carrying out examination I have employed standard clinical examination proforma .

In following heading like—chief complaints--, detailed history of present illness, epidemiology history, past, personal family history, ob/gy history in females.

General examination includes special examination-like skin, hairs, movements like—tremors.

Local examination—inspection, palpation, special test-fornodes, percussion Lymph nodes examination, svc syndromes, eye signs.

Investigation---routine lab, ecg, x ray chest.

Special investigation—thyroid function test—T3, T4, TSH, Ultrasonography of neck, X ray neck, Fnac of swelling, Thyroid scan—Indirect laryngoscope.

DISCUSSION-----

TABLE-1-CLINICAL DIAGNOSIS WITH INCIDANCE OF EACH TYPE OF GOITRE:

SR NO	NAME	TOTAL NO
1	COLLOID GOITRE	0
2	MULTINODULAR GOITRE	
	1) TOXIC GOITRE	3
	2) NON TOXIC GOITRE	7
3	SOLITARY NODULES	
	ADENOMA- TOXIC	3
	NON TOXIC	13
	Cyst	
4	DIFFUSE GOITRE	
	1) TOXIC GOITRE	0
	2) NONTOXIC	1

5	THYROIDITIS	0
6	CARCINOMA OF THYROID	
	1)1 ST TIME DIAGNOSED	2
	2)RECURRANCE	1
7	THYROID ABSCESS	0

In this I have tried to evaluate various disorder affecting thyroid.

I have classified thyroid disorder –colloid goiter, multi nodular goiter, solitary nodule,

Carcinoma of thyroid, diffuse goiter, thyroid abscess, thyroiditis. which can be further classified in toxic and non toxic type.

*No case diagnosed as colloid goiter

*out of 30 cases 10 diagnosed as multinodular goiter , the incidence of MNG , i.e. 33.4 %

*Of 30 cases 16 diagnosed as solitary nodular goiter—incidence is 53.3%.

The solitary nodules are further classified in 1. Adenoma
2. Thyroid Cyst.

*No case is diagnosed as thyroid cyst clinically.

*Diffuse enlargement of the thyroid which may have varying etiology is separate entity.

Of 30 cases only one case clinically diagnosed as diffuse goiter ,the incidence is 3.34% .

*carcinoma of thyroid which can further classified in 1 st time diagnosed and 2 recurrence.

Out of of 30 cases diagnosed only 3 are diagnosed as carcinoma clinically. The incidence is of carcinoma is 10 % of total goiter. The incidence of carcinoma of thyroid in BROOKS SERIES(1974) was 9.9% and MESSARIS (1974) IS 10.2%.

1 st time diagnosed 2 of 3 so incidence 66.6% of total diagnosed cases of carcinoma of thyroid.

Recurrence of carcinoma thyroid one of 3 i.e .the incidence is 33.3%of total carcinoma cases.

*TOXIC GOITRE—(MNG/SOLITARY NODULE/DIFFUSE)

6 of 30 cases are diagnosed as toxic goiter, the incidence is 19% of total cases diagnosed clinically.

*Nontoxic goiter—

Of 30 cases only 20 cases are diagnosed as non toxic variety where there was only presence o thyroid swelling clinically without any symptoms ,the incidence of nontoxic goiter is 62 %of total diagnosed cases of goiter..

In BHANSALI s series it is—mng—32% and solitary nodules 42%. In 1973.

TABLE—2-CLINICAL DIAGNOSIS WITH AGE DISTRIBUTION---

AGE	COLLOID GOITRE		ADENOMA		CYST	DIFFUSE GOITRE	CARCINOMA	
	TOXIC	NON TOXIC	TOXIC	NON TOXIC			1 ST DIA GNOSED	RECURANCE
0-9	0	0	0	0	0	0	0	0
10-19	0	0	0	0	0	0	0	0
20-29	0	1	1	2	0	0	0	0
30-39	0	1	1	3	0	0	0	0
40-49	0	0	4	2	3	0	2	0
50-59	0	1	0	1	3	0	1	0
60-69	0	0	0	0	2	0	0	1
70-79	0	0	0	0	0	0	0	0

*in this series no case diagnosed as colloid goiter clinically as colloid goiter.

*multi nodular goiter the maximum incidence of these type of goiter form 3 rd-5th decade.

7 out of 10 cases were noticed in between 3 d and 5 th decade . The incidence is 70 percent of total goiter.

Out of 7 cass 4 cases are in 4 th and 5 th decade

3 cases in 3 and 4 th decade

2 cases in 2 and 3 rd decade

1 case in 6 th decade.

In BAHNSALI s series the peak incidence was in 4th and 5th decade.

*the incidence of solitary nodules in BHANSALI series was found between 3 -4th decade, in our series the maximum incidence was noticed in 3 -5th decade.

Out of 16 cases 8 were diagnosed in 3-5 decade –i.e. incidence is 50 % of total diagnosed solitary nodule in this age group.

4 cases in age group 50-60 yrs

2 cases in 20-30 yrs

2 cases in age group of 60-70

*one of diffuse goiter was in age group of 50-60 yrs.

*out of 3 cases 2 cases were diagnosed in age group of 40-50 years/

Recurrence of thyroid carcinoma was found in age of 62 years.

Anaplastic carcinoma usually appears after 50 years.(Kaplan)

*toxic goiter (Adenoma, Muti nodular goiter ,diffuse goiter)

5 cases of toxic goiter appear in age of 40-60years.

One each in age group of 30-40 and 20-30 years of goiter.

These finding consistent with Kaplan-(1982) who found that hyper functioning of mng found between 40-60-yrs of age.

*the highest incidence of non toxic goiter was diagnosed in age group of 40-60 yrs.

Of 20 -10 cases diagnosed in age group of 40-60.

5 of 20 cases were diagnosed in age of 30-40 yrs

3 of 20 diagnosed in age of 60-70 yrs

1 in age group of 50-60.

**DISCUSSION---TABLE-NO-3-
CLINICAL DIAGNOSIS WITH SEX OF PATIENT---**

SR NO	NAME:_____	SEX	
		MALE	FEMALE
1	COLLOID GOITRE		
	TOXIC	0	3
	NONTOXIC	2	5
2	SOLITARY NODULES		
	ADENOMA TOXIC	0	3
	NONTOXIC	2	12
3	CYST	0	0
	DIFFUSE GOITRE		
	TOXIC	0	1
4	NON TOXIC	0	0
	Carcinoma of Thyroid		
	1)1 st time Diagnosed	0	2
	2) Recurrence	0	1

*out of 10 cases multinodular goiter 8 were diagnosed in females so incidence is 80% in females and males =female ratio 1 :4.

In Bhansali s series (1973) the ratio was 1:8.6

*out of 17 cases 15 cases were in females i.e. incidence is 91 % of total solitary nodules diagnosed male: female 1:7.5

This in Bhansali s series was found to be 1:9

*only one incidence of diffuse goiter diagnosed was found in females so incidence its 100%.

*all 3 cases of carcinoma of thyroid were found in female.

*nontoxic goiter (mng+ solitary nodules+ diffuse goiter) out of 22 cases 4 found in males and incidence is 19% of total diagnosed cases.male:female—1:5.5

* In toxic goiter, 6 of 6 cases were diagnosed in females i.e. incidence is 100 % In female.

**DISCUSSION—TABLE—4
CLINICAL DIAGNOSIS WITH SYMPTOMES OF PATIENTS**

SNO	SYMPTOMES	MNG		SOLITARY NODULE			DIFFUSE		CARCINOMA
		TOXIC	NON TOXIC	TOXIC	NON TOXIC	CYST	GOITRE	1ST DIAG NOSED	
1	SWELLING	2	5	1	12	0	0	1	0
2	FEVER	0	0	0	0	0	0	0	0
3	DYSPNOEA	1	0	0	0	0	0	0	0
4	CHANGE OF VOICE	0	0	1	0	0	0	1	0
5	PALPITATION	0	2	1	0	0	1	0	0
6	TREMERS	0	0	0	1	0	0	0	0
7	SWEATING	0	0	0	0	0	0	1	0
8	PAIN	0	0	0	0	0	0	0	0
9	DYSPHAGIA	0	0	0	0	0	0	0	0
10	SUDDEN INCREASE SIZE	0	0	0	0	0	0	0	0
11	EXAUTION	0	0	0	0	0	0	0	0
12	TEMP	0	0	0	0	0	0	0	0
	INTOLER- ANCE								
13	INCREASE IN APETITE	0	0	0	0	0	0	0	0
14	DECEASE IN WEIGHT	0	0	0	0	0	0	0	0
15	COUGH	0	0	0	0	0	0	0	0

*out of 10 cases of mutinodular goiter ,of 7 were presented with symptoms of swelling in neck—the incidence is 70%.

Out of 10 cases 1 presented with dyspnoea and 2 presented with palpitation.

*out of 16 cases 13 cases presented with swelling in neck. i.e .incidence of swelling in neck presented as solitary nodules is 81.2% . One cases each presented with change in the voice and sweating respectively.

*diffuse goiter presented in palpitation , sweating and increase appetite.

*clinically 3 cases were diagnosed as carcinoma of thyroid presented as

1. Swelling In Neck-1
2. Change Of Voice-1
3. Exaution And Weakness—1

*out of 6 cases of toxic goiter cases 3 presented with swelling in neck. So incidence of toxic goiter presented with neck swelling is 50 %.

1 out of 6 cases presented with dyspnoea.

1 presented with sudden increase in size , 1 presented with palpitation and sweating.

Out of 20 cases of nontoxic goiter 17 cases presented as swelling in neck i.e. the incidence of nontoxic goiter presented with neck swelling 85%.

10% of total cases (i.e. 2 out of 20) presented with palpitation

5% presented with (1 out of 20) sweating and tremors.

V-DISCUSSION---CLINICAL DIAGNOSIS WITH THYROID FUNCTION TEST

SR NO	CLINICAL DIAGNOSIS-----	T3	T4	TSH
		0.7-2	4.8-13.5	0.2-5.1
1	MULTINODULAR GOITRE			
	TOXIC	I+2N	3N	3N
	NONTOXIC	7N	2+5N	7N
2	SOLITARY NODULAR ADENOMA			
	TOXIC	III	III	3N
	NONTOXIC	13N	13N	11N+II
	CYST	0	0	0
3	DIFFUSE GOITRE			
	TOXIC	0	0	0
	NONTOXIC	1N	1N	1N
4	CARCINOMA OF THYROID			
	1 ST DIAGNOSED	1N+I	1N+I	1N+I
	RECURRANCE	N.D.	N.D.	N.D.
N---NORMAL				
N.D.--NOT DONE				
I,II,III----INDICATES INCREASING LEVEL OF THYROID HORMONES				

*out of 10 cases of MNG

Increase T3 level were found in 1 case
 Increase T4 level found in two cases
 And all cases with normal TSH level.

*Out of 16 cases of solitary nodules 3 cases presented with increase in T3 level i.e.18 percent cases present with increase T3 level.

Out of 16 cases -3 cases presented with increase of T4

level i.e. 18% of solitary thyroid nodules presented with increase T4 level .

8% of cases of solitary nodules (2 out of 16) having increase TSH level.

*T3, T4, TSH levels were in normal limits in only diagnosed case of diffuse goiter.

*Out of 3 cases of carcinoma of thyroid –one case presented with increase of T3,T4,TSH level

i.e.34% of carcinoma of thyroid presented with increase TFTs.

*In toxic goiter .out of 6 cases 4 cases were having increase T3 level (increase T3 level in 67% cases)

6 out of 3 cases presented with increases T4 levels (i.e.50% presented with increase T4 level)

In all cases of toxic goiter –TSH level were in normal limits.

Out of 20 cases of non toxic goiter all cases have normal T3 levels.

Only 3 cases out of 20 were having T4 level.
 2 out of 20 cases having increase TSH levels.

**DISCUSSION---TABLE—VI
 CLINICAL DIANOSIS AND INDIRECT LARYNGOSCOPY**

SR NO	CLINICALDIAGNOSIS-----	IDL DONE		IDL NOT DONE
		NOR-MAL	ABNOR-MAL	
1	MULTINODULAR GOITRE			
	TOXIC	1	0	2
	NONTOXIC	6	0	1
2	SOLITARY NODULAR ADENOMA			
	TOXIC	3	0	0
	NONTOXIC	9	0	4
	CYST	0	0	0
3	DIFFUSE GOITRE	1	0	0
4	CARCINOMA OF THYROID			
	1 ST TIME DIAGNOSED	0	RT SID-ED	1
			PALSY--2	
	RECURRANCE	0	0	0

INDIRECT LARYNGOSCOPY help to determine the abnormality of larynx, vocal cord which indicate the involvement of recurrent laryngeal nerve.

*10 out of 10 cases of MNG – IDL was in normal limits.

* In solitary nodules 16 out of 4 cases ,IDL was not done and rest were in normal limits.

*in only diagnosed case of diffuse goiter IDL was normal.

*in carcinoma of thyroid ,of 3 cases =2 cases were right sided vocal cord palsy with change of voice may be due to involvement recurrent laryngeal nerve i.e the incidence of vocal cord palsy is 67% of total carcinoma of thyroid.

**DISCUSSION—TABLE—VII
CLINICAL DIAGNOSIS WITH FINE NEEDLE ASPIRATION CYTOLOGY**

SR NO	CLINICAL DIAGNOSIS	COLOID	ADENOMA	MALIGNANCY	CYST	NOT DONE
1	MULTINODULAR GOITRE					
	TOXIC	2	0	0	0	1
	NONTOXIC	1	2	0	1	4
2	SOLITARY NODULES					
	ADENOMA					
	TOXIC	0	1	0	0	2
	NON-TOXIC	2	3	0	1	7
	CYST	0	0	0	0	0
3	DIFFUSE GOITRE	0	0	0	0	1
4	CARCINOMA OF THYROID					
	1 ST TIME DIAGNOSED	0	1	1	0	1
	RECURRANCE	0	0	0	0	0

Fine needle aspiration cytology by this method 24 number needle is passed in thyroid swelling and aspirated and the tissue is smeared on slide to evaluate the cells for malignancy.

In our series which is retrospective study in many cases FNAC was not done and we have evaluated the results of cases in which FNAC was done ---

*in MNG out of 10 cases 5 cases FNAC done—

in 40% (2 out of 5 cases) were diagnosed as colloid goiter.

In 40 % (2 out of 5) were adenomatous goiter

In 20 % (1 out of 5 cases were diagnosed as cyst of thyroid.)

In solitary nodules category out of 20 cases only 7 cases FNAC was done.---

Out of 7 cases 4 cases were diagnosed (58%) were of adenomatous goiter.

In carcinoma of thyroids –out of 3 cases fnac was done in 2 cases .

In one case diagnosed as adenomatous goiter and one case as malignancy.

*in toxic goiter variety , out of 6 in 3 cases fnac was done—

34% (1 out of 3) were having adenomatous goiter on fnac and in 67%(2 out of 3) cases were having colloid goiter of fnac.

*in non toxic goiter ,out of 20 cases in 8 cases fnac was done

60% of (5 out of 8) of total cases were diagnosed as adenomatous goiter variety

36% (3 out of 8) were diagnosed as colloid goiter

1 case was diagnosed as cystic variety on fnac.

**DISCUSSION---TABLE—VIII
CLINICAL DIAGNOSIS WITH USG FINDINGS**

SR NO	CLINICAL DIAGNOSIS	COLLOID GOITRE	MNG	SOLITARY NODULE	CYST	MALIGNANCY	NOT USED
1	MULTINODULAR GOITRE						
	TOXIC	0	3	0	0	0	0
	NONTOXIC	2	0	0	1	0	4
2	SOLITARY NODULE						
	ADENOMA						
	TOXIC	0	0	0	1	0	2
	NONTOXIC						
	CYST	0	0	2	3	0	8
3	MALIGNANCY						
	1 ST TIME DIAGNOSED	0	1	1	0	0	0
	RECURRANCE	0	0	0	0	0	1
4	DIFFUSE GOITRE	1	0	0	0	0	0

*in MNG variety out of 10 cases 6 cases USG of thyroid done---

Out of 6 cases 5 were diagnosed as MNG on USG—

1 case diagnosed as cyst.

*in solitary nodule of thyroid out of 16 cases 6 cases the USG was done—

Of 6 cases 2 were diagnosed as solitary nodule,

Out of 6 cases 4 were diagnosed as as cyst on USG.

*in diffuse goiter ,the only case diagnosed as colloid goiter on USG.

In carcinoma of thyroid 3 cases in 2 cases usg was done –

1 case diagnosed as MNG And one case diagnosed as solitary thyroid m nodule.

**DISCUSSION---TABLE---IX
CLINICAL DIAGNOSIS WITH HPE---**

SR NO	CLINICAL DIAGNOSIS	COLLOID	FOLLICULAR			CYST	NOT DONE
			ADENOMA	PA	FO		
1	MULTINODULAR GOITRE						
	TOXIC	0	3	0	0	0	0
	NONTOXIC	1	6	1	0	0	0
2	SOLITARY NODULAR						
	ADENOMA						
	TOXIC	0	3	0	0	0	0
	NONTOXIC	1	10	0	0	0	0
3	CARCINOMA OF THYROID						
	1 ST TIME DIAGNOSED	1	0	1	1	0	0
	RECURRENCE	0	0	0	0	0	0
4	DIFFUSE GOITRE	0	1	0	0	0	1

Any goiter case who has undergone the operation ,the specimen was send to HPE evaluation.

In our series I have tried to evaluate the disparity between HPE and clinical diagnosis---

*in MNG –out of 10 cases diagnosed as adenomatous variety i.e.—80% cases presented as adenomatous variety

10% cases variety presented as (1 out of 10) colloid goiter

10% (1 out of 10) as papillary carcinoma.

*out of 18 cases only 14 cases HPE before found and evaluated in solitary nodular variety.

Out of 14 cases diagnosed as solitary nodules clinically 13 cases (91%) cases diagnosed as adenomatous variety(i.e. follicular adenoma.)

8% cases (i.e. 1 out 8) were diagnosed as colloid goiter variety on HPE.

In diffuse goiter, the only case diagnosed clinically presented as adenomatous variety in HPE.

Out of 3 cases of carcinoma of thyroid 1 case on HPE presented as colloid goiter variety with cellular type is –suggestive of malignancy—

1 case presented as follicular carcinoma. And no case as anaplastic carcinoma.

MODES OF MANAGEMENT-----

IN MODEs of management of thyroid disorder, there are different ways are available for different disorder.

In medical management of thyroid disorder like in hyperthyroidism, iodide and anti thyroid medication like thiouracil and beta-blocker drugs like propranolol are widely used in our institute.

Supplement the thyroid , thyroid hormone substitute given in dose of 0.1 ms per day.

In other modes of management ,the radiotherapy I 131 (Radio iodine)is widely used. Now a days.

Other modes of management, surgical treatment is most preferred in which hemi thyroidectomy –only half of (one lobe) removed surgically.

Partial thyroidectomy in which posterior part of thyroid is preserved and rest of thyroid is of preserved and the rest of thyroid is removed to prevent hypothyroidism.

Complete thyoidectomy in which complete thyroid—(i.e.) both lobe of thyroid with isthmus is removed and patient is supplemented with exogenous thyroid hormones daily.

*in multinodular goiter variety out of 10 cases 5 , underwent partial thyroidectomy 3 cases underwent hemithyroidectomy., 2 cases underwent total thyroidectomy.

*in solitary nodule out of 16 cases 10 cases underwent hemithyroidectomy,3 cases partial thyroidectomy ,3 cases received total thyroidectomy.

*diffuse variety underwent subtotal thyroidectomy (partial)

* in carcinoma of thyroid out of 3 cases 2 cases underwent partial thyroidectomy.

*out of 20 cases of nontoxic goiter 13 underwent hemithyroidectomy

7 underwent partial thyroidectomy.

*out of 6 cases of toxic goiter all underwent total thyroidectomy.

POST OP COMPLICATION---

Out of 30 cases operated, one case has got post op complication. Immediately after operation ,there was hematoma formation due to which there was compression of larynx and trachea ,leading to asphyxia leading to hypoxic damage to brain and patient died due to pulmonary complication sec to pneumonia.

CONCLUSION---

1.The incidences of MNG is 33.4% and solitary thyroid nodule is 53.3%.The maximum incidence of non toxic goiter is 62 % and toxic goiter is 19% of total diagnosed cases clinically.

2. Maximum incidence of MNG and solitary thyroid nodule was found in age group of 30-50 yrs and maximum incidence of toxic and non toxic variety in same age group.

3.In MNG , M: F is 1 : 7.5 in non toxic goiter m:f ratio is 1: 5.5 , and toxic goiter it is 1:10.

4.Maximum patient of mng and loitory nodule presented with commonest symptoms as swelling in neck.

5. In toxic goiter increased T3 levels in 67% and t4 level in 50 % cases. In non toxic variety T3-T4 –TSH levels were in normal limits.

6. In 67 % of cases of carcinoma of thyroid presented with right sided vocal cord palsy on IDL.

7. Maximum no of goiters were diagnosed as adenomatous variety.

8.In toxic goiter –total thyroidectomy was preferred mode of surgery. In mng subtotal thyroidectomy is preferred .In solitary nodule hemi thyroidectomy is preferred.

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