RESULTS

Twenty five patients with thyroid nodule (s) their age range from 18 to 50 years old mean of age 34.2 **(Table 1)**, 22 patients were females and 3 patients were males **(Table 2)**.

Table (1) : Age distribution among the study group

Mean	**S.D**	**Range**
34.2	8.3	18-50

Table (2) : Gender distribution among the study group

Number	3	22
Cases	**Male**	**Female**
%	12%	88%

Results of history and clinical examination

Ten patients were presented with bilateral thyroid swelling **(Group A)** and 15 patients were presented with unilateral thyroid swelling **(Group B)**, 5 of these 15 had the swelling in right lobe of thyroid while the remaining 10 had the swelling in the left lobe.

Table (3) : Clinical picture among the study group

Cases	**Bilateral thyroid swelling Group A**	**Unilateral thyroid swelling Group B**	
		Rt. Lobe	**Lt. Lobe**
Number	**10**	**5**	**10**
%	**40%**	**20%**	**40%**
X^2 =3	**P>0.05**		**Insignificant**

Results of thyroid hormone function

In group A we had 9 patients with normal thyroid function (euthyroid), and 1 patient with hyperthyroidism.

In group B we had 13 patient with normal thyroid function (euthyroid), and 2 patients with hyperthyroidism.

Table (4) : Results of thyroid hormone examinations

	Group A		**Group B**	
Cases	Euthyroid	Hyperthyroidism	Euthyroid	Hyperthyroidism
Number	9	1	13	2
%	36%	4%	52%	8%
X^2=5.7	**P<0.05**		**Significant**	

Results of radioisoptic scaning of thyroid gland

Scan result were available from 25 patients in group A we had multinodular goiter in 7 patients, one patient with hot nodule, 2 patients with normal findings.

In group B 7 patients with cold nodule, 2 patient with hot nodule, one patient with multinodular goiter,5 patient with normal findings.

Table (5) : Initial findings of scan for 25 patients

Groups	Scan results	Number	%
A	Multinodular goiter	7	28%
	Hot nodule	1	4%
	Normal findings	2	8%
B	Multinodular goiter	1	4%
	Hot nodule	2	8%
	Cold nodule	7	28%
	Normal findings	5	20%
$X^2=11.2$	P<0.01	Highly significance	

Results of ultrasonographic examination of thyroid gland

In group **A** we had multinodular goiter in 5 patients, 3 patients had mixed cystic masses, one patient with solid mass and one patient with normal finding,

In group **B** we had solid mass in 5 patient, normal finding in 5 patients,3 patient with thyroid cyst, one patient with multi nodular goiter and one patients with mixed solid cystic masses.

Table (6) : Results of thyroid sonography for 25 patients.

Groups	*Sonar results*	*Number*	*%*
A	Multinodular goiter	5	20%
	Solid mass	1	4%
	Mixed solid cystic mass	3	12%
	Normal finding	1	4%
B	Multinodular goiter	1	4%
	Solid mass	5	20%
	Mixed solid cystic mass	1	4%
	Thyroid cyst	3	12%
	Normal finding	5	20%
X^2=4.7	**P<0.05**	**Significant**	

Results of fine needle aspiration biopsy

FNAB were available from 23 patient, in group **A** we had 5 patients with follicular cells, 2 patients with adenomatous nodule and one patient with inadequate aspirate.

In group **B** we had 7 patient with follicular cell, 5 patient with adenomatous nodule, 2 patients with normal thyroid tissue, one patient with inadequate aspirate.

Table (7) : Result of FNAB for 23 patients.

Group	Result of FNAB	Number	%
A	Follicular cells	5	21%
	Adenomatous nodule	2	8.6%
	Inadequate aspirate	1	4%
B	Follicular cells	7	30%
	Adenomatous nodule	5	21%
	Inadequate aspirate	1	4%
	Normal thyroid tissue	2	8%
X^2=7.2	p<0.05	Significant	

Surgical intervention done for the patients

All the 25 patients were subjected to surgery under general anathesia. In group (A) 8 patients had subtotal thyroidectomy and 2 patients had hemithyroidectomy because when they had been subjected to surgery we found that the disease was located in one lobe only.

In group (B) 11 patients had hemithyroidectomy and 4 patients had subtotalthyroidectomy because intraoperative we found that both thyroid lobes was affected.

Table (8) : Operative intervention done for the patients

Surgical intervention	Subtotalthyroidectomy	Hemithyroidectomy
Group A	8 (32%)	2 (8%)
Group B	4 (16%)	11 (44%)
Total	12 (48%)	13 (52%)

Table (9) : Comparison of initial findings with final surgical pathology (n {%}) in 25 patients who underwent diagnostic scintigraphy.

- Legend for chart:

C) Initial findings by scan.

D) Final surgical pathology.

	C	D
Cold nodule	7 (20%)	-
Hot nodule	3 (12 %)	-
Multinodular goitre	8 (32%)	10 (40%)
Hashimoto's thyroiditis	-	2 (8%)
Adenoma	-	10 (40%)
Thyroid cyst	-	3 (12%)
Normal findings	7 (28%)	-
$X^2 = 32.2$	$P < 0.01$	Highly significance

This table show that scan examination is helpful in detecting that thyroid nodule is solitary or part of multinodular goitre and also the nodule is functioning or not.

Table (10) : Comparison of initial findings by sonar with final surgical pathology (n%) in 25 patients

Legend of the chart:

C) Initial finding by ultrasound.

D) Final surgical pathology.

	C	D
Multinodular goitre	(n=6) 24%	10 (40%)
Solid mass	(n=6) 24%	-
Mixed solid-cystic mass	(n=4) 16%	-
Pure thyroid cyst	(n=3) 12%	3- (12%)
Adenoma	-	10- (40%)
Hashimoto's thyroiditis	-	2- (8%)
Normal findings	(n=6) 24%	-
$X^2 = 29$	$P < 0.01$	Highly significance

This table shows that sonar is helpful in detecting small lesions and has accuracy of 100% in detecting thyroid cyst.

Table (11) : Comparison of initial findings with final surgical pathology (n{%}) in 23 patient who underwent diagnostic fine needle aspiration biopsy

-Legend for chart:

A-initial finding by ***FNAB.***

B-final surgical pathology.

	A	B
Follicular cells	12(51%)	10 (40%)
Adenomatous nodule	7(29.6%)	
Inconclusive	4(16%)	-
Multinodular goitre	-	10(40%)
Thyroid cyst	-	3(20%)
$X^2 = 24.2$	$P < 0.01$	Highly significance

This table shows that FNAB has a high true positive rate and low false negative rate in preoperative diagnosis of thyroid nodule.

Results of histopathological examination

In group (A) we had multinodular goitre in 8 patients and 2 patients had thyroiditis.

In group (B) we had follicular adenoma in 10 patients,3 patients had thyroid cyst and 2 patient had multinodular goitre.

Table (12) : Results of histopathological examination

Group	Pathological results	Number	%
A	Multinodular goitre	8	32%
	Thyroiditis	2	8%
B	Multinodular goitre	2	8%
	Follicular adenoma	10	40%
	Thyroid cyst	3	12%
X2=7.9	P < 0.05	Significant	

Table (13) : Sensitivity and specificity of the preoperative diagnostic methods.

Preoperative diagnostic methods	Sensitivity	Specificity
Sonar	76%	0%
Scan	72%	0%
FNAB	82.6%	0%

$$Sensitivity = \frac{True(+)}{True(+)+false(-)}$$

$$Specificity = \frac{True(-)}{True(-)+false(+)}$$

This table shows that sensitivity of sonar is 76%, of scan 72% of *FNAB* 82.6% which means that these tests are a good positive tests and on the other hand specificity of these tests equal zero which means that these tests are a bad negative tests so that when these tests give negative results we can not exclude any abnormality.

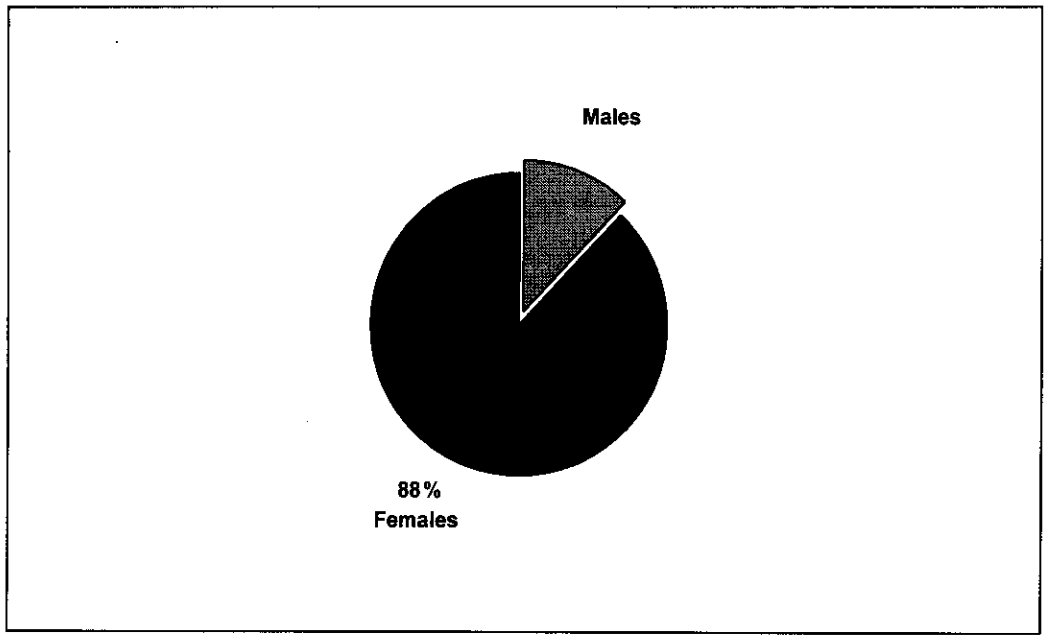
Group A

Cases	Sex	Thyroid hormone	Sonar	Scan	FNA	Operative intervention	Pathology
1	♀	euthyroid	Mixed solid cystic mass	Multinodular goitre	--------	Subtotal Thyroidectomy	Multinodular goitre
2	♀	Hyper-thyroidism	Normal findings	Hot nodule	Follicular cells	Subtotal thyroidectomy	thyroiditis
3	♀	euthyroid	Mixed solidcystic mass	Normal findings	Inadequat e aspirate	Hemithyroidect omy	thyroiditis
4	♂	euthyroid	Mixed solid cystic mass	Multinodular goitre	Follicular cells	Subtotal thyroidectomy	Multinodular goitre
5	♀	euthyroid	Multinodular goitre	Multinodular goitre	---------	Subtotal thyroidectomy	Multinodular goitre
6	♀	euthyroid	Multinodular goitre	Multinodular goitre	Follicular cells	Subtotal thyroidectomy	Multinodular goitre
7	♀	euthyroid	Multinodular goitre	Normal findings	Adenomat ous nodule	Hemithyroidect omy	Multinodular goitre
8	♀	euthyroid	Multinodular goitre	Multinodular goitre	Follicular cells	Subtotal thyroidectomy	Multinodular goitre
9	♀	euthyroid	Solid mass	Multinodularg oitre	Follicular cells	Subtotal thyroidectomy	Multinodular goitre
10	♀	euthyroid	Multinodular goitre	Multinodular goitre	Adenomat ous nodule	Subtotal thyroidectomy	Multinodular goitre

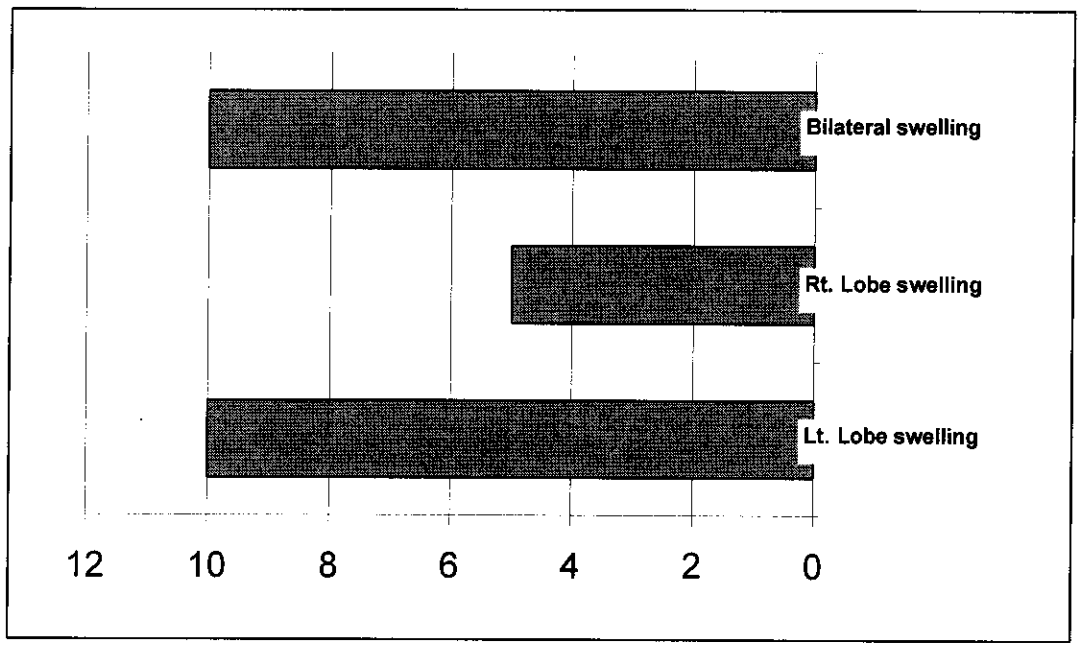
Group B

Cases	Sex	Thyroid hormone	Sonar	Scan	FNA	Operative intervention	Pathology
1	♀	Euthyroid	Thyroid cyst	Normal	Follicular cells	hemithyroidectomy	Thyroid cyst
2	♀	Euthyroid	Solid mass	Cold nodule	Adenomatous nodule	hemithyroidectomy	Follicular adenoma
3	♂	Euthyroid	Solid mass	Normal	Inadequate aspirate	hemithyroidectomy	Follicular adenoma
4	♀	Hyper-thyroidism	Multinodular goitre	Hot nodule	Adenomatous nodule	subtotalthyroidectomy	Multinodular goitre
5	♀	Euthyroid	Mixed solid cystic mass	Normal	Follicular cells	subtotalthyroidectomy	Follicular adenoma
6	♂	Euthyroid	Normal	Multinodular goitre	Normal thyroid tissue	subtotalthyroidectomy	Multinodular goitre
7	♀	Hyper-thyroidism	Normal	Hot nodule	Follicular cells	hemithyroidectomy	Follicular adenoma
8	♀	Euthyroid	Thyroid cyst	Normal	Normal thyroid tissue	hemithyroidectomy	Thyroid cyst
9	♀	Euthyroid	Solid mass	Cold nodule	Adenomatous nodule	hemithyroidectomy	Follicular adenoma
10	♀	Euthyroid	Thyroid cyst	Normal	Follicular cells	hemithyroidectomy	Thyroid cyst
11	♀	Euthyroid	Normal	Cold nodule	Adenomatous nodule	subtotalthyroidectomy	Follicular adenoma
12	♀	Euthyroid	Solid mass	Cold nodule	Follicular cells	hemithyroidectomy	Follicular adenoma
13	♀	Euthyroid	Normal	Cold nodule	Adenomatous nodule	hemithyroidectomy	Follicular adenoma
14	♀	Euthyroid	Solid mass	Cold nodule	Follicular cells	hemithyroidectomy	Follicular adenoma
15	♀	Euthyroid	normal	Cold nodule	Follicular cells	hemithyroidectomy	Follicular adenoma

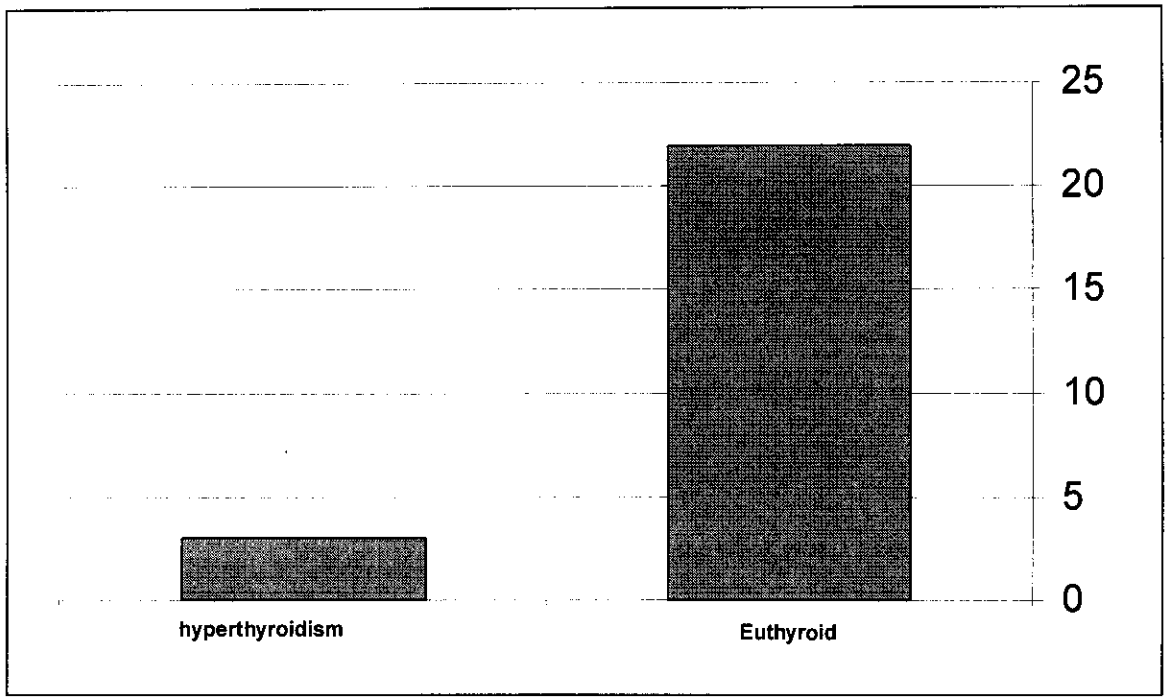
Frequency of gender distribution in the study group



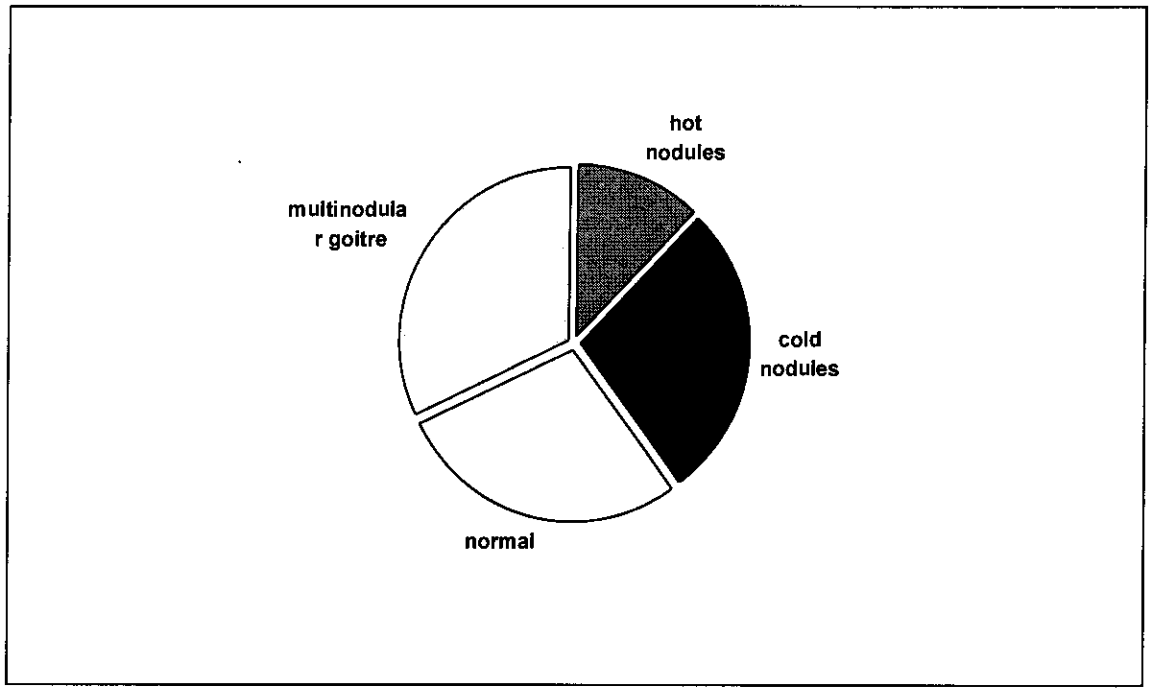
Frequency of clinical picture in the study group



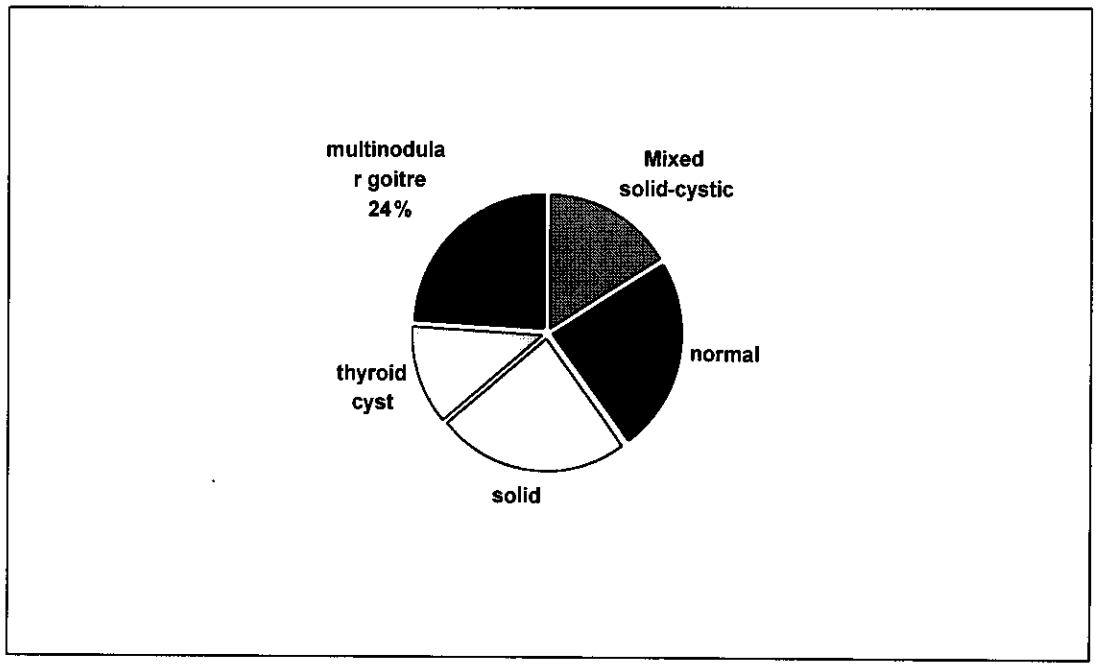
Frequency of result of thyroid hormone examination



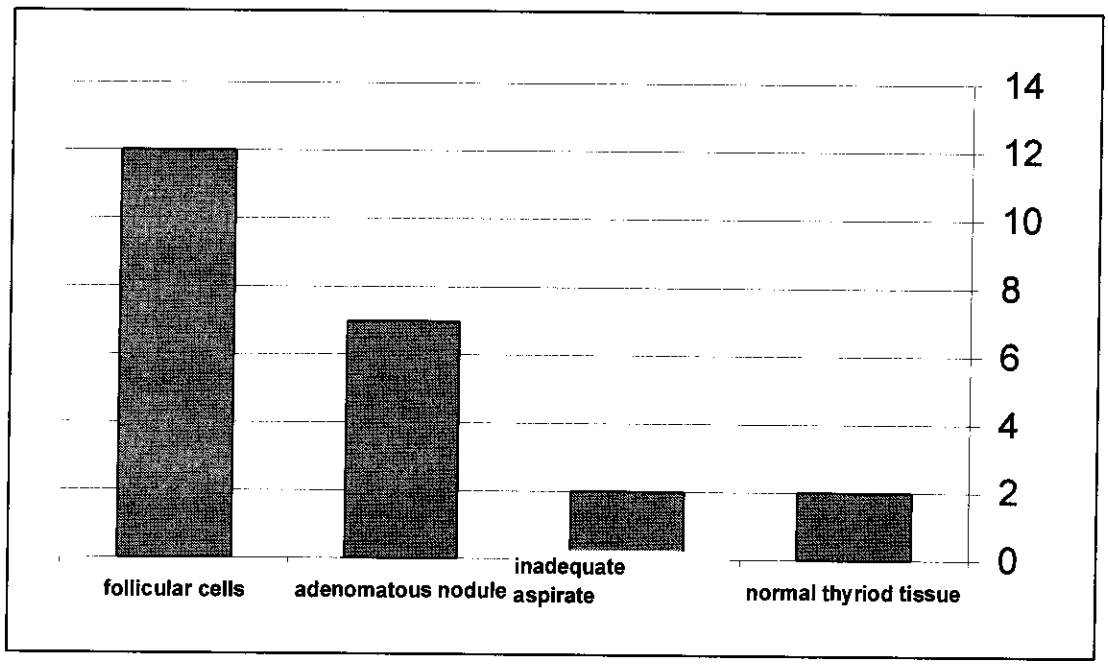
Frequency of scan results in study group



Frequency of initial findings by sonar



Frequency of FNAB results



Frequency of the pathological examination of the resected specimens