Comparative Study of FNAC and Excisional Biopsy in Thyroid Swelling

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Abstract To study the FNAC and histopathological pattern of thyroid swelling, prevalence of thyroid malignancy, mode of treatment and associated surgical complications. A total of 100 patients of thyroid swelling were evaluated by FNAC preoperatively and histopathologically after surgery. Reports of FNAC and histopathology were similar in 73% patients while dissimilar in 27%. Among benign tumors diffuse colloid goiter was the most common presentation. Thyroid disease is endemic and colloid goiter is the most common presentation. FNAC is useful in preoperative planning but final diagnosis should be based upon histopathology.

Keywords Thyroid · FNAC · Histopathology · Colloid goitre

Introduction

Diseases of the thyroid gland shows a great geographical variation all over the world. The incidence being higher in endemic areas [1]. Age has got a great influence in occurrence of goiter [2]. Incidence of disease is higher among females [3]. Diagnosis and management of thyroid swelling depends upon different invasive and non-invasive investigation. The aim of FNAC is to provide accurate and fast results.

FNAC is a sensitive, less demanding, technically easy to perform, cost effective and safe procedure for high risk patients [4].

After surgery histopathological report may be different from FNAC. Here we stress that FNAC gives positive result in 2/3rd of cases and is useful for planning the treatment.

Material and Method

The study conducted upon 100 patients of thyroid swelling at ENT Deptt. of R.N.T. Medical College, Udaipur. The work up included Deptt. of Pathology and Radiodiagnosis. Patients of all ages and socio-economic groups included in this study.

Observations and Results

FNAC presentation

S.No.	Type	No. of patients (100)	%
1.	Benign	88	88
2.	Malignant	4	4
3.	Suspicious	8	8

Different FNAC presentation

S.No.	FNAC presentation	No. of patient	%
1.	Tubercular/Granuloma	11	11
2.	Hashimoto's thyroiditis	2	2
3.	Cystic colloid goitre	48	48
4.	Adenoma	35	35
5.	Papillary carcinoma	2	2
6.	Follicular carcinoma	2	2

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Incidence of benign thyroid swelling is 88% as compared to malignant which is 4%.

Histopathological pattern

S.No.	Type	No. of patient	%
1.	Benign	81	81
2.	Malignant	19	19

The incidence of benign thyroid swelling is 81% out of total 88%, benign FNAC patients treated surgically, 7% diagnosed as malignant on histopathology. So the patients of malignancy were 19% in histopathology report as compared to 4% in FNAC.

Different histopathological pattern

S.No.	Histopathological presentation	No. of patient	%
1.	Tubercular/Granuloma	10	10
2.	Hashimoto's thyroiditis	6	2
3.	Cystic colloid goitre	40	40
4.	Adenoma	25	25
5.	Papillary carcinoma	8	8
6.	Follicular carcinoma	11	11

Maximum no. of patients fall in the category of “colloid goiter” i.e., 40%. Second common presentation was that of “Adenoma”. In malignant Follicular Carcinoma is more common than others.

Comparative study of FNAC and histopathology

S.No.	FNAC and histopathological findings correlated	No. of patient	%
1.	Similar	73	73
2.	Non-similar	27	27

Out of total 100 patients 52% treated for lobectomy, 24% subtotal thyroidectomy, 10% total thyroidectomy and 14% with nodulectomy. Out of 100 only 13 patients were treated with radiation as chemotherapy along with surgery. Patients followed up for 6 months. Out of 100 only 30 patients developed complications.

S.No.	Complication	No. of patients (100)	%
1.	Wound infection	20	20
2.	Vocal cord paralysis	4	4
3.	Hemorrhage	2	2
4.	Hypoparathyroidism	4	4

Discussion

Patients of thyroid swelling were categorized epidemiologically (age, sex, geographical distribution) with the aim.

1. To study FNAC and HPR pattern of thyroid.
2. To study the prevalence of thyroid malignancy.
3. To study the mode of treatment including surgical and others.
4. To study post surgical complications.

In this study 30% of patients fall in age group 21–30, 86% were female, 59% from rural areas. In FNAC 88% of total cases were benign and 4% diagnosed malignant, 8% as suspicious. On HPR 81% were benign and 19% malignant. Out of suspicious 8% FNAC, 4% were found malignant.

Conclusion

This study concludes that this area is endemic for thyroid disease as colloid goiter is common presentation [5]. It is because of low intake of Iodized salt and maize as staple diet. Medical education should be given in these rural areas [5, 6].

It also concludes that FNAC is the most commonly used highly specific diagnostic procedure. But it can give false negative result. So final diagnosis and treatment pattern should be based upon histopathology.

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