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ORIGINAL ARTICLE

CLINICAL STUDY AND MANAGEMENT OF MULTINODULAR GOITRE

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ABSTRACT

BACKGROUND AND OBJECTIVES :

To enrich the existing information in the field of thyroid diseases and to know the clinical pattern and presentation of patients with MNG. To know the principles and management of MNG. To Review the mode of treatment adopted. This is a prospective study of 100 patients admitted with nodular thyroid swelling from August 2012 to August 2014. at the surgical units of Rajah Muthiah Medical College, Annamalai University, Chidambaram. After admission, a detailed history was taken and thorough clinical examination was carried out which was entered in the proforma. All the patients underwent routine investigations along with x-ray of the neck-AP and lateral views and chest X-ray, ENT examination, thyroid profile and FNAC. Few selected patients underwent thyroid ¹²⁹I isotope scan before surgery. These patients underwent surgery and all the excised thyroid specimen were sent for HPE^{1,2,3,4}. They were discharged after removing the sutures and post operative follow up thyroid profile was done on 1st post operative week and at 1 month. They were advised to take the needful medications accordingly. Only those patients with clinical evidence of multinodular goiter were taken up for the study randomly, excluding malignancies detected preoperatively and the results were compared with other studies⁵.

Keywords: MNG, FNAC, HPE, thyroid isotope scan, thyrotoxicosis, subtotal thyroidectomy, total thyroidectomy.

1.INTRODUCTION

The thyroid gland is an endocrine gland situated in the lower part of front and the sides of the neck. Its main function is regulation of the basal metabolic rate stimulates somatic and psychic growth and plays important role in calcium metabolism. The term thyroid is derived from Greek, which means shield (Thyros- shield, eidos – form).

Normal thyroid gland is impalpable. Enlargement of the thyroid gland is the most common manifestation of the thyroid disease. The enlargement may be either generalized or localized, which again may be, toxic or nontoxic. The nontoxic goitre is further divided on etiological basis as endemic goitre and sporadic goitre. The endemic goitre is defined as one where more than 10% of population shows thyroid enlargement. Diseases of thyroid gland especially multinodular goitre due to deficiency of iodine are prevalent in India^{6,7}.

Lesions of thyroid are predominantly confined to females in the ratio of 5:1 and this has been attributed to variations of thyroid hormone during female reproductive function and physiological events such as puberty, pregnancy and lactation.

Incidence of nodular goiter increases with increasing age. MNG can become malignant but is rare.

2.MATERIALS AND METHODS

This a comparative randomised study carried out in our department of general surgery . The duration of the study was for two years from August 2012 to August 2014.

Sample size: Total of 100 cases were enrolled in the study among which 86 were females and 14 were males.

INCLUSION AND EXCLUSION CRITERIA

Only those patients with clinical evidence of multinodular goiter were taken up for the study randomly, excluding malignancies detected preoperatively and the results were compared with other studies.

Method:

- A total of 100 patients were randomly selected
- All these cases were studied in detail, clinically and recorded.
- The relevant investigations whenever indicated were performed-investigations included Hemoglobin percentage, urine analysis, blood sugar estimation, blood urea estimation, blood grouping and Rh typing, serum cholesterol, x-ray of the neck-AP and lateral views and chest X-ray and ENT examination. Thyroid profile,Thyroid isotope,FNAC done^{8,9,10,11}.
- All patients underwent surgery and all the excised

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thyroid specimen were sent for Histopathological examination.

- Patients were followed up postoperatively for a period of two weeks.
- A data sheet was prepared to facilitate collection of data. It included information on the routine parameters like name age, sex etc. as well as the clinical diagnosis and investigations. The datasheet also includes a note on the surgery done, post operative period ect. The data sheet was maintained for all cases.

3.RESULT

- Of the hundred cases, 14 were males (14 %) and 86 were females (86%) with a female to male ratio of 6:1.
- 43.2% (6 cases) of the males presented in the age group of 51 years and above.
- Majority of the females 56 %, (56 cases) presented in the age group between 21 – 40 years.
- The Chief complaint in our patients (100 %) was swelling in front of the neck. Duration of swelling ranged from 20 days to 15 years and 90% (90 cases) were seen in the range of 1 month to 5 years. Only 14 cases (14%) had pain.
- Pressure symptoms were seen in 22% (22 cases). There was family history of goitre in 4 cases.
- Toxic symptoms and signs were seen in 34 cases (34 %). There were 4 cases of retrosternal goitre.
- Most of the patients showed colloid goitre(78%) on FNAC.
- 32 patients underwent a total or near total thyroidectomy and remaining 68 cases underwent subtotal thyroidectomy with a complication rate of 18%.
- There was no mortality in our series.

Table 1 Age and sex incidence

Age in years	male	female	Total	Percentage
01-10	00	00	00	00%
11-20	00	04	04	04%
21-30	02	28	30	30%
31-40	02	28	30	30%
41-50	04	18	22	22%
50&above	06	08	14	14%
Total	14	86	100	100%

Table 2 Duration of Swelling

Duration of swelling	Total	Percentage
1 – 6 months	42	42%
6 – 12 months	20	20%
1-2years	12	12%
2-5years	16	16%
5-10years	04	04%
>10years	06	06%
Total	100	100%

Table 2 Duration of Swelling

Progression of swelling	Total no. of cases	Percentage
Gradual	88	88%
Rapid	04	04%
Stationery	08	08%
Total	100	100%

Table 4 Incidence of pain in thyroid swelling

Pain in the swelling	Total no. of cases	Percentage
Painless swelling	86	86%
Painfull swelling	14	14%
Total	100	100%

Table 5 Incidence of Pressure symptoms

Symptoms	Total no. of cases	Percentage
1 Pressure symptoms		
a. Alteration in voice	00	00%
b.Difficulty in swallowing	16	16%
c.Difficulty in Breathing	06	06%
2.No pressure symptoms	78	78%
Total	100	100%

Table 6 Incidence of goitre in family

Family h/o goitre	Total no. of cases	Percentage
With	04	04%
Without	96	96%
Total	100	100%

Table 7 Incidence of toxicity

Toxicity	Female	Male	Total no. of case	Percentage
With toxicity	34	2	36	36%
Without toxicity	52	12	64	64%
Total	86	14	100	100%

Table 8 Situation of lower border of thyroid swelling

Lower border	Total no. of cases	Percentage
Lower border seen	96	96%
Lower border not seen	34	34%
Total	100	100%

Table 9 Incidence of tracheal shift

Tracheal position	Total no. ofcases	Percentage
Trachea central	98	98
Tracheashifted to left	02	02
Tracheashifted to right	00	00
Total	100	100

Table 10 FNAC findings of Thyroid

Report of FNAC	Total no. of cases	Percentage
Colloid Goiter	78	78%
Hashimoto's Thyroiditis	14	14%
Follicular neoplasm	08	08%
Malignancy	00	00%
Inconsistent	00	00%
Total	100	100%

Table 11 Histopathology (HPE) of Thyroidectomy

HPE Report	Total no. of cases	Percentage
Colloid goiter	78	78%
Hashimoto's Thyroiditis	06	06%
Follicular neoplasm	06	06%
Follicular carcinoma	00	00%
Papillary carcinoma	06	06%
Medullary carcinoma with papillary ca	04	04%
Total	100	100%

Table 12 complications of surgery

Complications	Total no. of cases	Percentage
Reactionary Haemorrhage	00	00%
Transient Hypoparathyroidism	08	08%
Permanent Hypoparathyroidism	00	00%
Temporary Recurrent laryngeal nerve palsy	06	06%
Permanent Recurrent laryngeal nerve palsy	00	00%
Wound infection	04	04%
Total	18	18%

4.CONCLUSION

- MNG is the commonest thyroid disease in our hospital, more common in females, with chief

complaints of swelling in front of the neck.

- FNAC is very useful in the diagnosis and management of MNG. Radioisotope scan is used to know the functioning tissue and also retrosternal extension.
- The main indications of surgery in MNG are cosmetic problem, pressure effect symptoms, secondary thyrotoxicosis and suspicion of malignancy.
- Subtotal thyroidectomy is the surgery of choice for MNG. But a trend towards total thyroidectomy is replacing subtotal thyroidectomy.^{12,13,14,15}

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