

A Prospective Study of Clinical Presentation and Management of Patients with Thyroid Swelling at Tertiary Care Hospital

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Abstract

Background: Thyroid nodule can symptomatic or asymptomatic, small or multinodular and benign or malignant. The proper evaluation of nodules with various investigations is required to choose the correct type of management.

Objective:

- 1) To evaluate the incidence of different type of thyroid disorders (Benign or Malignancy) and usefulness of clinical features, cytological and sonological investigation for management of the study
- 2) To study the outcome of the surgical management.

Methods & Materials: A total of 100 patients who meets the inclusion criteria were included in the study. The signs and symptoms of the patients were evaluated with proper history of the patient. The necessary investigations such as thyroid function tests, FNAC and imaging techniques were done. Based on investigations and clinical examination, either surgical therapy or non-surgical therapy was chosen.

Results: The majority of the patients were in the group of 35 to 45years (36%). The patients coming to surgery OPD presented with neck swelling associated with difficulty in swallowing and pain in the neck and signs, symptoms of hyperthyroidism and hypothyroidism. The cytodiagnosis shows that most of patients were suffering with non-neoplastic nodules (82) than neoplastic nodules (18). Majority of the patient underwent Hemithyroidectomy (33%) due to single lobe involvement. Few patients (6%) which are found be malignant by postoperative histopathological diagnosis were again taken for complete thyroidectomy. In 54 % of the patients were taken for total thyroidectomy, when both the lobes are involved.

Keywords: Thyroid nodules, Clinical features, Management

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Introduction

The first and most important gland to develop in fetal life is thyroid gland. It is an endocrine gland and it has important functions like development of somatic and psychic growth, regulates the Basal Metabolic Rate [1]. Thyroid disorders

present in the form of Enlargement of the thyroid gland and these are the most common disorders encountered at the surgical outpatient department. The patient will present with generalized enlargement or localized enlargement. The enlargement

of thyroid gland is seen due to both Hyperthyroidism and Hypothyroidism and the nodule may be malignant or benign. Based on clinical presentation and symptoms, it can be diagnosed that the nodule is due to Hyperthyroidism or Hypothyroidism [2]. The primary causes of the hyperthyroidism are due to toxic adenoma Grave's disease, toxic nodular goiter and the causes hypothyroidism are Hashimoto's thyroiditis, subacute thyroiditis and thyroid ablation due to surgery, drugs and radioactive iodine [3].

From the literature it is observed that the thyroid disorders are commonly seen in females than males, which may be due to alteration in the regulation of thyroid hormone in different phases like puberty, pregnancy and lactation [4]. The thyroid nodule may be palpable or not palpable, if the nodule size is less than 1cms are usually not palpable. The clinical features of hyperthyroidism are tachycardia, disturbed sleep and loss of weight, hot and moist extremities, tremors, pressure symptoms like dysphagia, hoarseness of voice, or dyspnea. Whereas the patents with hypothyroidism presents with bradycardia and weight gain cold and dry extremities. Irrespective of the type of thyroid nodule, the neoplasm has to be ruled out through investigations [5]. Important investigations done are FNAC (first line of investigations), thyroid function tests (TFT), imaging techniques such as, ultrasound of neck, C.T., M.R.I and antibody level and Indirect Laryngoscopy. Based on the clinical evaluation and preoperative sonological and cytological findings, the treatment of choice I'e conservative management or surgical therapy is decided [6]. The present study was undertaken with mainly two objectives 1) to evaluate the incidence of different type of thyroid disorders (Benign or Malignancy) and usefulness of clinical features, cytological and sonological investigation for management of the study 2) to study the outcome of the surgical management.

Materials and Methods

Patients attending surgery OPD with complain of neck swelling at Gulbarga Institute of Medical Sciences, Kalaburgi were included in the study. The subjects meeting inclusion criteria were included and the study was conducted over period of 6months in the concerned department. The patients who are not willing to be part of the study were excluded from the study. Institutional ethics committee approval was taken before initiating the study. Patients diagnosed with thyroid nodule were admitted in the Dept. of General Surgery and data was collected in specially designed proforma and Informed Consent was taken from each patient who were included in the present study. The signs and symptoms of the patients were evaluated with proper history of the patient. The necessary investigations such as thyroid function tests, FNAC and imaging techniques were done. In case of Hyperthyroidism, the nodule is aspirated using fine needle and the patients were started with antithyroid drugs such as carbimazole, betablockers. If the aspirated fluid is clear and disappearance of the swelling, the patients were advised follow up for next 6weeks. The surgical therapy is chosen if the swelling reappears after initial aspiration.

Results

A total of 100 patients were included in the present study. The age of the patients ranges between 18 to 65 years, where majority of the patients were in the group of 35 to 45years (36%), followed by 46 to 55 years (34%), then 25-35 years (17%) 56 to 65 years (12%) , and one (1%) patients with age group of 18 to 25years. From the current study it is observed that thyroid disorders were more commonly encountered in females (72%) than in males (28%).

The patients coming to surgery OPD presented with neck swelling associated with difficulty in swallowing and pain in the neck. Other symptoms and signs of hyperthyroidism like anxiety, tremors,

weight loss and exophthalmos were also observed. The patients with hypothyroidism presented with weight gain, loss of appetite. Few patients also complained of change in voice and cervical lymphadenopathy. After examination in 52% of the cases, the swellings were firm in consistency and in 25% of cases were nodular. Few patients also presented with

cystic (6%) and soft consistency (4%) type. We have also encountered, 13% of malignant cases which were presented with hard swelling in the neck. After USG examination and FNAC we were able to differentiate different types of thyroid nodules which are listed out in following table.

Table 1: Various types of thyroid nodules after cytodiagnosis

Nonneoplastic lesion	
Colloid goitre and with cystic changes	27
Nodular goitre	46
Thyroiditis	09
Neoplastic lesion	
Follicular neoplasm	18
Positive for malignant cells	00

Table 2: Various types of thyroid nodules after Histopathological diagnosis

Multinodular goiter	35
Colloid goiter	30
Thyroiditis	06
Follicular adenoma	13
Papillary carcinoma	11
Follicular carcinoma	02
Pathology report not available	03

Majority of the patient underwent Hemithyroidectomy (33%) due to single lobe involvement. Few patients (6%) which are found be malignant by postoperative histopathological diagnosis were again taken for complete thyroidectomy. In 54 % of the patients were taken for total thyroidectomy, when both the lobes are involved.

Table 3

Hemithyroidectomy	33
Lobectomy	13
Total thyroidectomy	54

Very few patients presented with postoperative complications such as hypocalcemia (6%) , change in voice (4 %) and surgical site infection(2%). Hypocalcemia was mainly due to transient hypoparathyroidism and they were treated with calcium supplementation. The change in voice was due to recurrent laryngeal nerve paresis and patients were started with steroids. Antibiotics and wound exploration was done in surgical site infected patient.

Discussion

Most of the thyroid nodules are benign, but few patients can be having malignant

nodules. The detection rate of thyroid nodules has increased these days to 20%-60% due to availability of different imaging techniques like ultrasound. From the literature we have found that the incidence rate is more common in females (1 in 12-15 young women) than males (1 in 40 young men) [1]. In the present study the age of the patients ranges between 18 to 65 years, where majority (36%) of the patients were in the adult age group (35 to 45years) and more commonly seen in females (72%) than in males (28%) [7].

Nearly similar findings were seen in a study done by Vikrant Kumar *et al*, where the age of patient ranges from 10 yrs. to 70 yrs and the commonest age group with thyroid pathology was between 31- 40 yrs with mean age group of 34.5 years and male-to-female ratio was 1:5.66 [8].

In a study done by Shashikala V *et al*, the patients attending out patient department of General Surgery, Bangalore Medical College and Research Institute, Bangalore, were presented with swelling in the thyroid region and features of hypo and hyperthyroidism [9]. In the present study, the patients presented with additional pressure symptoms like difficulty in swallowing and pain in the neck, change in voice and cervical lymphadenopathy. Similar type of clinical features were also presented by the patients attending the department of Otorhinolaryngology and Head and Neck Surgery, Government Medical College and Hospital, Haldwani [8].

In a recent study done by Gaikwad S. L , after ultrasonography evaluation majority of patients were found to have colloid goiter (62.5%) followed by multinodular goitre (20%), solitary thyroid nodule (12.5%) and thyroiditis (5%) . these findings were little different from the present study where in the present study majority of the patients are found to have nodular goiter (46%), followed by colloid goiter (27%), follicular neoplasm(18%) and thyroiditis (9%) [10].

After FNAC evaluation, out of 100 cases 18% of patients are diagnosed as malignant cases in the present study. But after histopathological evaluation 26.8% of cases were found to have malignant cells. FNAC false negative result was seen in 8.8% of cases. The possible reason for this might be sampling error and misinterpretation. Similar type of difference in cytodiagnosis and histopathological diagnosis was found in a study done by Shukla S *et al*. in their study, out of total of 60 cases 13.3% of cases were malignant after cytodiagnosis and 18.6% of cases were diagnosed as

malignant after histopathological diagnosis [11].

Based on the cytodiagnosis (FNAC), the management of thyroid disorders include observation, levothyroxine suppression therapy, or surgery. The increase in the size of the thyroid nodule during or after levothyroxine therapy is indication for surgical management. The bulky thyroid nodules causing pressure symptoms is additional indication for surgery [12].

In a recent study done by Shashikala V *et al*, out of 100 cases 80 cases underwent Hemithyroidectomy according to standard protocol for solitary nodule. And during the operation 46 of cases (out of 80) underwent subtotal thyroidectomy due to malignant suspicion. After histopathology 10 out of 80 cases underwent total thyroidectomy [9].

Similar kind of study done by Patel S *et al* shows that hemithyroidectomy was commonly preferred (in 70% of cases) and in remaining 30% of cases total thyroidectomy was done [13].

Findings of the above mentioned studies were quite different from the present study where 54% of underwent total thyroidectomy before as well as after histopathology report. Hemithyroidectomy was done in 33% of cases and lobectomy was done in 13% of cases.

Conclusion

The present study was undertaken to evaluate the clinical feature and management of thyroid swellings. All the patients included in the study were having swelling in front of the neck and other hypo or hyperthyroidism features. The present study shows that disease incidence was more in young females than males. The clinical evaluation and FNAC can be considered as safe and cost effective tools for diagnosis of the disease. Most of the thyroid swellings are benign but few carry risk of malignancy. The cytodiagnosis suggesting malignancy were directly taken for surgery (total thyroidectomy) without levothyroxine therapy. Intraoperative exposure with hardness and fixed nodules

were also taken for total thyroidectomy to avoid revision of surgery. Benign swellings with increased size during or after levothyroxine therapy were considered for Hemithyroidectomy and Lobectomy. The post-operative complications were very less and managed with specific treatment.

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