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**Dr. AP Patange**  
Department of Surgery KIMS,  
Karad, Maharashtra, India

**Dr. AM Shah**  
Department of Surgery KIMS,  
Karad, Maharashtra, India

## Clinical profile and management of thyroid swellings

**AP Patange and AM Shah**

### Abstract

**Aim:** Assess clinical profile and management of thyroid swellings.

**Material and Method:** The average age of the patient was 35 years. The youngest patient was 11 years old and the oldest patient was 65 years. Average age group most frequently affected was 31 to 40 years. Female to male ratio was 7.3:1.

**Result:** All patients presented with thyroid swelling. Some other symptoms were observed in more than 50%. All patients presented with thyroid swelling. Some other commonly observed symptoms were weight appetite (12%), sudden increase in size of swelling (12%).

**Conclusion:** Anaplastic thyroid cancer were treated with palliative chemotherapy. Haemorrhage, recurrent laryngeal nerve damage, parathyroid insufficiency and wound infection were the only complications. There was no mortality.

**Keywords:** parathyroid insufficiency, thyroid swellings

### Introduction

The thyroid gland is the largest endocrine gland. Its swelling remained a clinical enigma for a long time and have attracted attention of surgeons as well as physicians. Its problems pervade virtually all fundamental and clinical branches. It has been a ground for controversy for many years. Much of the confusion of physiology and pathology has been cleared after the discovery of radioactive isotopes. New information has been added from all corners of the world concerning embryology, anatomy, physiology and pathology of the thyroid. This has helped to establish the spectrum of thyroid diseases in recent years<sup>[1]</sup>.

Innovative in medicine is a curious process. Some new diagnostic and therapeutic procedures such as surgical procedures and technological innovation are accepted immediately by medical community and rapidly placed in service. FNAC is very useful as a diagnostic tool for diagnosis of a palpable lump. It is simple and having high diagnostic accuracy. Diagnostic ultrasound provides a simple, rapid and readily reproducible method of differentiating between solid and cystic thyroid nodules and accurately measuring thyroid gland and nodule size. Scintillation scanning of clinically single thyroid nodule before surgery can help preoperative detection of malignancy and other processes not likely to respond to medical therapy. It classifies the nodule into 4 categories hyperfunctional, functional, hypofunctional and nonfunctional. Ignorance and poor motivation to seek medical advice in the early stages of the disease, all contribute to a varied spectrum of thyroid disorders<sup>[2]</sup>.

Goitre occur with varying intensity in almost every country. Nontoxic goitre is one of the most common endocrinal disorder. Nodular goitre formed the largest group<sup>[3]</sup>. Toxic thyroid swelling has high incidence in areas of relatively low iodine and the incidence increases with increasing age<sup>[4]</sup>. Toxic goitre is a complex clinical problem which invites the knowledge of physiology of the gland and meticulous selection and preparation of patients prior to surgery. Thyroiditis is frequently encountered in the management of disease of the thyroid gland. Recognition of the various forms of thyroiditis as distinct clinical and pathological entities guides the physician in the treatment of this disease<sup>[5]</sup>. Rapid development of goitre which is hard or adherent to the surrounding structures of the neck must be differentiated from carcinoma. Thyroid cancer is a rare and complex disease. As thyroid contains various cell types from which distinct diseases arises ranging from indolent to extremely aggressive<sup>[6]</sup>. Our aim is to study the clinical profile and management of thyroid swelling and to study

**Correspondence**  
**Dr. AP Patange**  
Department of Surgery KIMS,  
Karad, Maharashtra, India

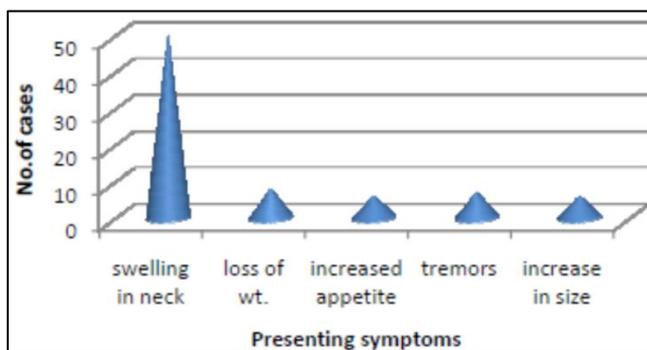
difference in the spectrum of thyroid diseases observed in the area from that presented elsewhere in India and Abroad.

### Material and Method

Present study consists of 50 cases of thyroid swellings seen during the period MAY 2008-MAY 2010 in Krishna Institute of Medical Sciences, Karad. All these cases were studied through indoor admission to different surgical units. No specific criteria were made for selection of patients. All patients were subjected to a detailed history taking with special note of their age, sex, place of residence and occupation. The place of residence was noted to see if any case resides in an endemic area. A detailed history and examination was carried out based on the proforma as below. The average age of the patient was 35 years. The youngest patient was 11 years old and the oldest patient was 65 years. Average age group most frequently affected was 31 to 40 years. Female to male ratio was 7.3:1.

### Result

All patients presented with thyroid swelling. Some other symptoms were observed in more than 50%. All patients presented with thyroid swelling. Some other commonly observed symptoms were weight appetite (12%), sudden increase in size of swelling (12%).



Swelling was the most common presenting symptom. The duration of swelling varied from 1 m to 15 years. The average duration of the swelling was 3 m to 6 months. The symptoms suggestive of the pressure on adjacent structures were observed in 10 patients<sup>[8]</sup>. They were particularly seen in cases of carcinomas of thyroid and huge goitres. Dyspnea was commonest. The symptoms suggestive of the toxicity were seen in 29 patients. Tremors and tiredness were seen more frequently than other ones<sup>[7]</sup>. The general examination included the assessment of the general health status including pulse, temperature, BP, lymphnodes and features suggestive of hypo/hyperthyroidism. Patients having pulse rate more than 90 were thoroughly evaluated for toxicity. The clinical assessment revealed either diffuse, solitary or multinodular enlargement. On exploration some of diffuse and solitary enlargements turned out to be multinodular the solitary nodules observed in the study were located in right and left lobes and in isthmus. They were frequently seen in left lobe<sup>[8]</sup>. The solitary nodule varied in their sizes from 1 to 6 cms. Average size was 3.5 cm. Status with respect to toxicity. Thyroid enlargement were also separated as toxic and simple clinically. X ray Findings: Radiological investigations included a plain X ray of soft tissue neck taken in a lateral and A.P. views. X ray chest was taken in all the cases selected for the surgical intervention. X ray neck was taken to see calcification, tracheal. Deviation and / or compression.

X ray chest was taken to see extension of goiter in thorax, secondaries in lung and bony cage in cases of carcinoma thyroid and any associated pulmonary pathology such as chronic bronchitis, emphysema or pulmonary tuberculosis. T3, T4 and TSH estimation: In those cases with thyroid swelling patients were sent for estimation of TFT. 40 out of 50 patients were operated upon. The extent of surgery done was decided by the operating team with respect to preoperative diagnosis, findings at the operation table. Following surgeries were done.

### Discussion

#### Spectrum of thyroid diseases

Goitre occurs with varying intensity in almost every country. In its incidence goitre makes no distinction of race, nationality colour creed or class. The North American, the European, the Chinese, the Himalayan Indian, the Turkoman and the people of Central and South America all suffer from it, under certain conditions, some severely, some moderately, some mildly (Celly and Snedden) (31). The existence of endemic goitre in an extensive belt along the Southern slopes of the Himalayas has been known for a considerable time (31). In our series, the incidence of thyroid diseases is 25 cases per year. No local geographic area is noted for endemicity. In the second five year plan, the survey work was started in 1958-59 and more than 8 lakhs of population has been examined (31).

In present study there were 44 females and 6 males. Thus there was female preponderance in the ratio of 7.3:1. The youngest patient was 11 years old and oldest was 65 years. 78% of the thyroid swellings occurred in third, fourth and fifth decades of life. H. Nongrum *et al.* (2006) (32) noted youngest patient of age 11 years old and the oldest of 84 years with average age incidence 38 years. S. Kumar *et al.* (2001) (33) noted average age incidence of 38.5 years. In the present series there was 9 (18%) cases of diffuse goiter, 23 (46%) cases of solitary nodule, and 18 (36%) patients had multinodular goiter clinically.

In this series, clinicopathological incidence of diffuse goiter was 6 cases (12%). 3 out of 6 cases were colloid goiter and remaining 3 were toxic diffuse goiter. Miller (14) found an incidence of 44% for diffuse goiter. Female to male ratio was 2:1 for diffuse goitre in present series. The clinicopathological incidence of multinodular goitre was 23 cases (46%). 16 out of these cases were nontoxic and 7 were toxic. All the 23 cases were almost evenly distributed in all the age groups.

In this series the female to male ratio for multinodular goitre was 3.6:1 (16 females and 5 males). Ucheddu (1996) (78) reported a ratio of 6.9:1 in the series of multinodular goiters. In the present series the average age incidence for multinodular goiter were 30 years in females and 27 years in males. V. Shankaran (39) noted an average age of 35 years.

The clinicopathological incidence of solitary nodule in this series was 12 cases (24%). Seif and Kite (1980) (40) had reported an incidence of 44.06% of solitary nodules in their series. Mengistu M (1993) noted an incidence of 33.8% in his 340 patients of thyroid diseases. In the present series, female to male ratio for solitary nodule was 5: 1 (10 females and 2 males). Kapoor and Sarin (1982) (42) reported a ratio of 2:1. Mengistu (1993) reported a ratio of 7.2:0.14,<sup>[9]</sup>

In our series one thyroid nodule turned out to be malignant histopathologically. Gupta KL (1995) noted 2 to 10% carcinomas in solitary thyroid nodule histopathologically.

More than 50% of solitary nodules in this series have occurred in the age group of 20-50 years. The solitary nodule presents at an earlier age than multinodular goiters as incidence of nodularity increases with age (Mortensen *et al.*)<sup>[8]</sup> Some other authors reported a peak incidence in 21–30 years –Rao and Rao<sup>[10]</sup> 21–40 years–Kapoor and Sarin. Multinodular toxic goitre manifest after 50 years of age usually. In the present series 5 patients presented in 5th decade, 2 in the 4th decade, 2 in the 3rd decade and 1 was in 2nd decade. Carcinoma of thyroid gland was noted in 4 cases (12.5%) in this series.

This corroborates with various other reports from India and Abroad. Kamal *et al.* (2002)–9.5%, Sachdev *et al.* (1974)–%, Vickers *et al.* (1981)–12.3% are few other incidence reported. Present series has 3 females and 1 male suffering from carcinoma thyroid. Female to male ratio was 3:1.

Average age incidence for carcinoma for females was 34 years. The male patient was 65 years old. Thus carcinoma of thyroid is not limited to old age only. Most cases of anaplastic variety are seen in 5th to 6th decades, however papillary carcinoma may be seen younger age. The average age of thyroid carcinoma as reported by various authors was 48 years (Fisher and Fisher, *Ceries et al.*)<sup>[11]</sup>.

Lymphocytic thyroiditis (subtype of autoimmune thyroiditis) was observed in 1 (2%) female patient 40 years old. This case was followed with medical treatment and symptoms were relieved (Ack) (13). In our series 2 cases (4%) of thyroglossal cyst were detected. Vaze and Rajdeo (55) reported a low incidence of thyroglossal cyst amongst all thyroid disorders. Both the cases in this series were males, both in the 2nd decade.

Minimum to moderate temperature elevation, increased sweating and thirst, weight loss inspite of increased appetite, anxiety and tremors were noted in 7 patients (70%) of toxic goitre. According to Schwartz (1976)<sup>[12]</sup> these manifestation are more commonly noted in diffuse toxic disease than in those with multinodularity. These effects are because of hypothalamic actions of thyroid hormones. In our series 2 patients (20%) were presented with severe depression. Depression is commonly encountered in medical setting and often may be a symptom of an underlying medical illness (Zisselman *et al.* 1995). Thyrotoxic patients are frequently excitable, restless with hyperactive reflexes.

### Conclusion

Majority of diffuse goiter and bilateral multinodular goiters was treated with subtotal thyroidectomy Majority of unilateral multinodular goiter and solitary nodules were treated with hemithyroidectomy. In suspected case of thyroid cancer (well differentiated) near total thyroidectomy with resection of adjacent lymphnodes and node bearing tissue was done. Anaplastic thyroid cancer were treated with palliative chemotherapy. Haemorrhage, recurrent laryngeal nerve damage, parathyroid insufficiency and wound infection were the only complications. There was no mortality.

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