



A CLINICAL STUDY OF THYROID MALIGNANCIES

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KEYWORDS :

INTRODUCTION

Thyroid cancer is a relatively uncommon malignancy accounting for 1.0% of all new cancer cases, tenfold less than that of lung, breast, or colorectal cancer. Approximately 8000 to 14000 new cases of thyroid cancer are diagnosed each year. Occult thyroid cancers found in 3% and microscopic cancers are found in at least 10% of patients who die from other causes.

Among the various types of thyroid cancer papillary thyroid cancer is the most common form followed by follicular carcinoma and medullary carcinoma, the other types being rare. Out of all the types of thyroid cancer papillary carcinoma has the better prognosis. Anaplastic thyroid carcinoma usually assumes an aggressive course and is rapidly lethal, carrying the poorest prognosis among all types.

Most patients present with a palpable swelling in the neck which initiates assessment through a combination of history, physical examination and FNA Biopsy.

AIMS AND OBJECTIVES OF THE STUDY

The present study has undertaken to study the following parameters:

1. The relative incidence of various thyroid malignancies.
2. The age and sex distribution of thyroid malignancies.
3. The initial modes of presentation of individual thyroid cancers.
4. The frequency of lymph nodal and distant metastases in different thyroid cancers.
5. The most common organs involved by distant spread in thyroid cancers.

METHODOLOGY

This is a combined retrospective and prospective study of 40 cases of primary malignant tumours of thyroid diagnosed and treated in Kurnool Medical College between October 2014 to October 2016.

INCLUSION CRITERIA - Those patients with postoperative histopathological confirmation of thyroid malignancy were included in the study.

EXCLUSION CRITERIA - Those patients with benign histopathology proven after surgery were excluded from the study.

HISTORY

History regarding age, sex, presenting symptoms, symptoms of local infiltration like dyspnoea, hoarseness of voice, etc., symptoms of hyperthyroidism and hypothyroidism, symptoms attributed to distant metastasis, history of prior neck irradiation, past history of thyroid surgery, family history and treatment history were noted for each patient in the study.

CLINICAL EXAMINATION

Examination of the thyroid swelling was done to note its characteristics. Neck was examined for evidence of cervical lymph node involvement. General Examination including the skeletal system and abdomen was done to find out evidence of distant metastases.

INVESTIGATIONS

1 Biochemistry:

- Thyroid function tests (T3, T4, TSH).

- Serum thyroglobulin assay.
 - Serum calcitonin.
 - Serum calcium, phosphate.
 - Urinary VMA test of 24 hr urine sample
2. Fine needle aspiration cytology was done in all the patients.
 3. Ultrasound of thyroid gland was done in some of the patients.
 4. Indirect laryngoscopy prior to surgery to find out vocal cord paralysis.
 5. Chest X-ray PA view and Neck x-rays.
 6. Ultrasound of abdomen was done to detect metastases in abdominal organs.

OBSERVATIONS AND RESULTS

This is a combined retrospective and prospective study of 40 cases of thyroid malignancy diagnosed and treated in Government General Hospital Kurnool from October 2014 to October 2016.

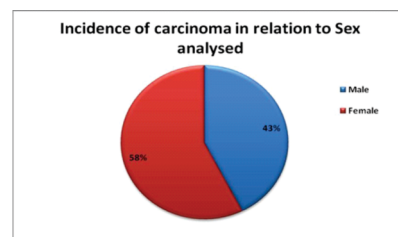
AGE INCIDENCE:

Table 1 : pattern Of Age Incidence:

Sl. No.	Age group		No. of Cases	% of Cases
1	0- 10 years	-	-	
2	11	- 20 years	1	2.5%
3	21	- 30 years	9	24.5%
4	31	- 40 years	11	27.5%
5	41	- 50 years	10	25%
6	> 50 years	9	24.5%	

Graph - 1 : SEX DISTRIBUTION

Female to male ratio was 1.35:1.



Graph - 2 : RELATIVE PREVALENCE OF DIFFERENT THYROID CANCERS

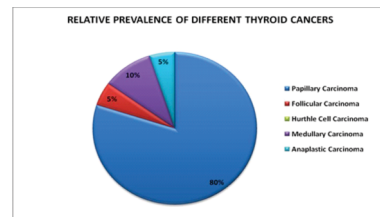


Table - 2 : DURATION OF THYROID SWELLING

Time	No. of Patients	Percentage of Cases
< 6 months	4	10
6 months - 1 year	5	12.5
1 year - 2 years	18	45

2 years - 3 years	2	5
3 years - 4 years	4	10
4 years - 5 years	2	5
> 5 years	3	7.5
Post op presentation	2	5

Majority had presented usually 1 - 2 years after noticing a neck swelling.

Table - 3 : Initial Mode Of Presentation:

Clinical Presentation	No. of patients	% of cases
Solitary Thyroid nodule	16	40%
Multi nodular goitre	11	27.5%
Neck swelling and Cervical lymph node metastases.	6	15%
Neck swelling and Distant metastases.	1	2.5%
Local recurrence of swelling after previous operation.	2	5%
Fixity to trachea	4	10%
RLN paralysis	2	5%
Hypo / Hyper thyroid	-	-
Occult thyroid cancer	2	5%

Table - 4 : Site Of Growth

Site of Growth	No. of Cases	% of Cases
Right lobe	24	60%
Left lobe	12	30%
Isthmus	-	-
Both lobes	4	10%

Right lobe (60%) was most commonly affected in the cases studied. Isthmus alone was not affected in the studied cases. When both the lobes were affected by multiple nodules, they were not uniform in distribution but one or the other lobe was mainly affected.

Table - 5 : Pressure Effects

	No. of Cases	% of Cases
1. Pressure Effects	17	42.5
a) Dysphagia	3	7.5
b) Dyspnoea	4	10
c) Deviation of trachea	8	20
d) Hoarseness of voice	2	5
2. No Pressure Effects	23	57.5

TREATMENT:

In studied cases, Total thyroidectomy was done. Then all operated cases were kept on (L- Thyroxine) to suppress TSH (0.2 - 0.3 mg daily). Functional neck dissection was done for 5 cases. 3 cases which are inoperable were advised to attend radioiodine therapy.

FOLLOW UP:

In cases studied, 14 cases are followed up to two years, they did not show any evidence of metastases or local recurrence. Two cases were followed from 3 months to one year. Five cases could not be followed up long.

POSTOPERATIVE COMPLICATIONS:

1. Haemorrhage	-
2. Injury to RLN	2
3. Tetany (Hypoparathyroidism)	4
4. Injury to trachea	1

DISCUSSION

This is a combined retrospective and prospective study of 40 cases of thyroid malignancies diagnosed and treated in Kurnool Medical College, Kurnool between October 2014 to October 2016.

The incidence of the thyroid malignancies are increasing recently. The relatively indolent nature of thyroid malignancy is generally ascribed to the inherent innocuous biological behaviour that is characteristic of these neoplasms.

Despite its good prognosis, a significant number of patients die each year of thyroid cancer, and despite the recent advances in diagnosis and

treatment, little decrease in mortality has been seen over the past several decades.

Early detection of the malignancy & proper management is essential for complete cure of the disease.

Surgery is the main modality of choice in the management of the thyroid malignancy. Radioactive Iodine ablation & Radiotherapy may be the adjuvant therapies.

The results in the study are compared with two series. MISRA et al during a 30 years period from 1967 to 1996, PRAMOD et al 30 patients of histopathologically proven thyroid cancers, treated during the period of 2-years from September 2005 to August 2007.

Table - 6 : Age Incidence

Age Group	Present Series	MISRA et al 50	PRAMOD et al
0-10 years	0%	1.4%	--
11-20 years	25%	5.9%	6.6%
21-30 years	24.5%	21.5%	20%
31-40 years	27.5%	25.6%	46.6%
41-50 years	25%	20.8%	20%
>50 years	24.5%	17%	6.6%

In the present series, majority of the cases are noted in the 40-60 years age group. No cases reported in the 0-10 years age group and beyond 70 years of age. The incidence of thyroid cancer was found to increase with every decade till the 50-60 years age group. The age incidence and the peak incidence of the thyroid cancer (in the age group of 30 - 40 yrs) are similar that of Misra et al & Pramod et al.

These results are almost similar to the findings of the studies conducted by PRAMOD et al & Misra et al, that the maximum incidence of cases is noted in the 30-60 years age group with the incidence decreasing thereafter. The incidence is also very low in <10yrs.

Table - 7 : Sex Distribution

Sex	Present Series	MISRA et al	Hoffmann et al
Male	42.5%	37%	53.3%
Female	57.5%	63%	46.7%

The incidence is more among the female patients in the present study (57.5%) which is similar to 63% in Misra et al study & it is 46% in the Hoffmann et al study. The incidence in the males is 42.5% in the present study & 37% in Misra et al study & 53.3% in Hoffmann et al study.

Table - 8 : Relative Incidence Of Different Thyroid Cancers

Thyroid Cancer Type	% Series	Misra et al 50	Hoffmann et al 34
Papillary Carcinoma	80%	62%	82.2%
Follicular Carcinoma	5%	17%	4.4%
Hurthle cell Carcinoma	-	-	-
Medullary Carcinoma	10%	8%	6.7%
Anaplastic Carcinoma	5%	10%	6.7%
Others	-	-	-

Majority of the patients had papillary carcinoma of thyroid in the present series (80%), which was also constituted the majority of cases during the Misra et al study (62%) and in the study of Hoffmann et al (82.2%).

Incidence of follicular carcinoma was (5%) which is almost similar to the finding in Hoffmann study in which follicular carcinoma constituted 4.4% of cases.

The percentage of follicular cancer among thyroid cancer is 17% in the series of misra et al 34. The reason might be the patients are from iodine deficient areas, which is the risk factor for follicular carcinoma of the thyroid.

Medullary carcinoma constituted 10% of total cases in the present study which is almost similar to the findings in the Misra et al study.

Anaplastic carcinoma of thyroid constituted 5% of cases which is less than that found in the Misra et al study [10%].

Table - 9 : Initial Mode Of Presentation

Clinical Presentation	Present Series	Misra et al 50	Pramod et al
Thyroid swelling	67.5	79.6%	100
Occult thyroid cancer	5%	12.1%	-
Hyperthyroid/Hypothyroid	0%	5.3%	6.6
Neck swelling with Cervical lymph node mass	15%	9.8%	10
Distant metastases	2.5%	9.1%	-
- Fixity to trachea	10%	4%	-
- RLN paralysis	5%	5%	10

Majority of the patients in our study presented in the form of thyroid swelling 67.5% which is near to the MISRA et al series.

The incidence of cervical lymph node involvement in the present series 15% is higher than that found in the series of Misra et al (9.8%). & Pramod et al which is (10%).

The percentage of patients with distant metastases is less 2.5% in the present series when compared to Misra et al series. it was 9.1 %.

Table - 10 : Type Of Thyroid Swelling With Malignancy

Thyroid swelling	Present Series	Misra et al 50
Solitary thyroid nodule	40%	68.2%
Multi nodular goiter	27.5%	11.4%

In the solitary thyroid nodule, the most common cancer is papillary type but in multi nodular goitre it is the follicular cancer.

Table - 11 : Comparison Of Complications After Surgery

COMPLICATIONS	PRAMOD et al	Present series
Transient hypoparathyroidism	20%	7.5%
Infection	6.6%	-
Superior Laryngeal Nerve palsy	-	5%
RLN palsy	-	5%
Others	-	3.3%

Post operative complications are minimal in the present study. In the present study, Transient hypoparathyroidism seen in 7.5% of cases, while it is 20% in Pramod et al. Nerve palsy (includes both superior laryngeal & recurrent laryngeal nerve) is seen in 10% of cases in the present study.

Infection is seen in none of the cases in the present study. Other complications like bleeding, dysphagia are rare which accounts for 3.3% in the present study, while the same are none in Pramod et al.

Table - 12 : Incidence Of Staging Of Various Thyroid Cancers

	PRAMOD et al	Present series
Stage I	76.6%	70%
Stage II	10%	20%
Stage III	3.4%	5%
Stage IV	10%	5%

Most of the cases after investigations and pathological reporting in the present study are found to be in Stage I (70 %) but it was 76.6% in PRAMOD et al.

The results in the present study are utmost comparable to that of PRAMOD et al study group.

Follow up :

The cases are followed up post operatively after the discharge every 4 wks for a period of 2 months.

Completion thyroidectomy is done in 2 cases in the follow up. Serum thyroid profile, thyroglobulin was checked during follow up.

Hypothyroidism noted in any of the cases are supplemented of L – thyroxine 100mcg once a day. Radiotherapy is given only for one case who has medullary thyroid carcinoma in view of high risk factors.

SUMMARY

This is a combined retrospective and prospective study of 40 cases of

thyroid malignancies diagnosed and treated in Kurnool Medical College, Kurnool between October 2014 to October 2016.

- 1) In the present series, majority of the cases are noted in the 40-60 years age group with peak incidence noted between 30-40 years of age.
- 2) The incidence is more among female patients (57.5%).
- 3) Majority of the patients had papillary carcinoma of thyroid in the present series (80%),
- 4) Majority of the patients presented with thyroid swelling(76.5%) in the present study.
- 5) Papillary thyroid carcinoma was found in majority of solitary thyroid nodules(40%) in the present study.
- 6) Most of the patients were found in Stage I(70%) after investigations and pathological studies in the present study.
- 7) Post operative complications like transient hypoparathyroidism, Superior Laryngeal and Recurrent Laryngeal Nerve palsy, etc are noted.
- 8) 14 cases were followed up post operatively among which 2 cases were subjected to completion thyroidectomy.

CONCLUSIONS

Thyroid Cancer is a common Endocrine Neoplasm accounting for a significant number of cases diagnosed each year.

Thyroid Cancer can occur over a wide range of age but is more common in the 40-60 years age group.

Women are more commonly affected by thyroid cancer than men.

Papillary thyroid carcinoma is the commonest type of thyroid cancer followed by Medullary carcinoma in present study.

The initial mode of presentation of thyroid cancer was usually with an enlarging thyroid.

Spread of Malignancy is usually by lymphatics in Papillary Thyroid cancer. & by hematogenous in Follicular cancer.

Thyroid cancers with more undifferentiated histology presented with advanced stage disease and those with well differentiated histology usually presented as limited stage disease.

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