



A Clinical Study on Carcinoma of Thyroid

KEYWORDS

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ABSTRACT Cancer of the endocrine glands is rare. Carcinoma thyroid is the most common endocrine malignancy, accounting for 94.5% of the total new endocrine cancers, and 65.9% of the deaths due to endocrine cancers.⁸⁵ The discrepancy between the total number of cases of all endocrine cancers arising in the thyroid (94.5%) and the total proportion of endocrine cancer deaths (65.9%) reflects the relatively indolent nature and long-term survival associated with thyroid malignancies.⁸⁵ In the United States, thyroid cancer accounts for less than 1% of all malignancies (2% of women and 0.5% of men).²⁷ Thyroid cancer is responsible for six deaths per 1 million persons annually.²⁷ The general categories of thyroid carcinoma are well-differentiated, anaplastic and medullary and unusual cancers such as lymphoma, sarcoma and other rare malignancies. Follicular carcinoma continues to be the most common variety of differentiated thyroid carcinoma in iodine deficient geographic area.⁸⁴ Kashmir valley is an iodine deficient area with significant problem of endemic goitre.⁸⁴ Goitrogenic pockets are also common in this part of Andhra Pradesh, where the incidence of carcinoma is on the rise.⁸⁴ External radiation is the only well established cause of cancer of the thyroid gland. This study consists of cases of thyroid swellings, suspected clinically to be carcinoma of thyroid and proved by FNAC and post-operative histopathological examination. A few cases of clinically benign swellings were found to be carcinomas on FNAC and post-operative histopathological examination. Most of the cases were submitted to total thyroidectomy with or without modified radical neck dissection, proved to have satisfactory results.

Aims :

1. To study the 45 cases of thyroid malignancies attending in our General Surgery OPD.
2. To correlate the thyroid swellings with the clinical findings.

Materials & methods :

This clinical case study of thyroid carcinoma was conducted in ASRAM medical college, Eluru, over a period of two years from September 2012 to September 2014.

Methods:

All the patients with thyroid related disorders attending our OPD were observed from September 2012 to September 2014. A pre-tested proforma was used to collect relevant information by history, clinical examination of patients and provisional diagnosis was made. All swellings were subjected to FNAC.

Inclusion criteria:

1. Cases were included in the study only when the clinical examination (or) the FNAC proved to be malignancy and underwent surgery.
2. The protocol was explained to all the patients in detail in their own language and informed written consent was taken.

Exclusion criteria:

1. Cases who were ruled out after investigation
2. Cases that were treated conservatively
3. Cases who refused surgery.
4. Cases unfit for surgery.

45 cases of thyroid carcinoma proved by clinical examination and FNAC were under went x-ray neck AP & lateral view, U/S Neck, blood investigations like CBC, Blood urea, serum creatinine, urine routine & microscopy.

For the stated period, 45 patients were studied and analysed based on the age and sex distribution, their dietary habits, past history, provisional diagnosis on clinical examination, tissue diagnosis based on FNAC, treatment, the final diagnosis on the post operative biopsy, and follow up on 3 months period basis.

Observations & Results :

TABLE .1

AGE AND SEX DISTRIBUTION:

S.No.	AGE IN YEARS	MALES	FEMALES	TOTAL	PERCENTAGE
1.	0-10	0	0	0	0
2.	11-20	0	3	3	6.66
3.	21-30	1	11	12	26.66
4.	31-40	2	9	11	24.44
5.	41-50	1	5	6	13.33
6.	51-60	1	7	8	17.77
7.	61-70	1	3	4	8.88
8.	71-80	1	0	1	2.22

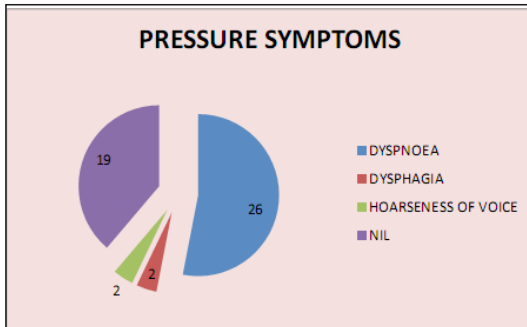
2. DURATION:

DURATION IN MONTHS	NO. OF CASES
3	2
4	5
5	6
6	8
7	2
8	6
9	4
11	2
12	5
24	4
36	1

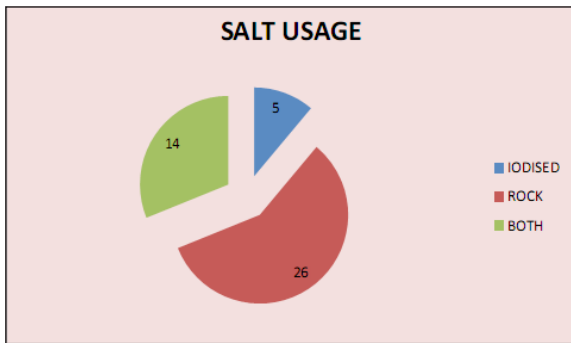
TABLE .3

	No. of Cases
PRESENT	16
ABSCENT	29

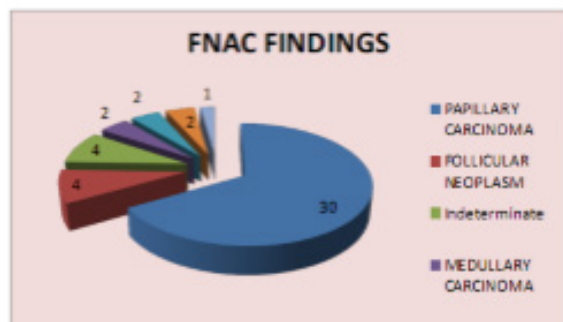
4. PRESSURE SYMPTOMS:



5. SALT USAGE :



6. FNAC FINDINGS :

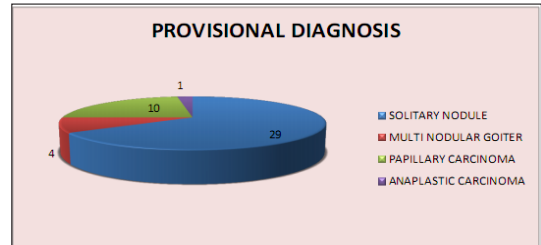


	No. of Cases
Papillary carcinoma	30
Follicular neoplasm	4
Indeterminate	4
Medullary carcinoma	2
Hashimotos thyroiditis	2
Anaplastic carcinoma	2
Suspicious for lymphoma	1

7. LYMPH NODES STATUS:

	No. of Cases
PRESENT	10
ABSENT	35

8. PROVISIONAL DIAGNOSIS :



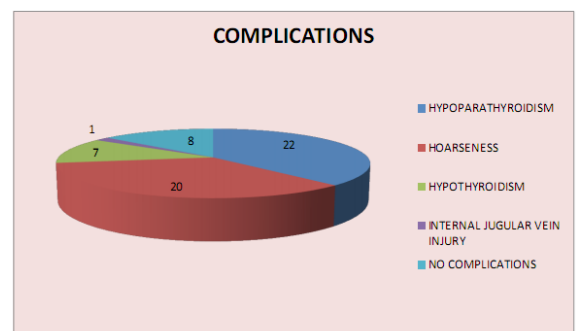
9. CONSISTENCY:.

	No. of Cases
FIRM	28
CYSTIC TO FIRM	8
SOFT TO FIRM	8
HARD	1

10. SURGICAL TREATMENT :

SURGERY	No.	Percentage
Total thyroidectomy	24	53.33
Total thyroidectomy + MRND	10	22.22
Completion thyroidectomy	9	20
RADIOTHERAPY	02	4.44

11. COMPLICATIONS :



12. FINAL CASES :

TYPE	No. cases	Percentage
Papillary Carcinoma	37	82.22%
Follicular Carcinoma	03	6.66%
Anaplastic Carcinoma	02	4.44%
Medullary Carcinoma	02	4.44%
Non HodgkinsLymphoma	01	2.22%

Final chart :

Type	Recurrence	No recurrence	Deaths	No follow up
Papillary Carcinoma	9	18	00	10
Follicular Carcinoma	00	01	00	02
Anaplastic Carcinoma	00	00	01	01
Medullary Carcinoma	00	00	00	02
Non Hodgkinslymphoma	00	00	00	01

Discussion :

Thyroid cancer is the most common among all endocrine malignancies. In countries with endemic goiter, the highly aggressive thyroid cancers like follicular carcinoma and anaplastic carcinoma were more prevalent according to the findings by Riccabona et al in 1980 and Bikiri et al in 1998. Well differentiated carcinoma have a wide age distribution, youngest being of 14 years and oldest being 71 years old in the present study.

Age distribution of WDTC.

1.	The present study	14-71 years
2.	Nabil AL- zaher et al 2008	40-50 years

TABLE.13

The female preponderance is more in the present study when compared to Maria Luisa carcangiu et al; Nabil AL- zaher et al 2008 and kalyani R et al 2010 India. Patients in this present study come from different types of areas like foot hills, river beds, sea coast and fertile delta lands

FNAC is a very useful diagnostic tool preoperatively in cases of carcinoma thyroid. In the present study, 66.66% of cases the FNAC suggestive of papillary carcinoma which is higher the another study conducted by Rajani .R et al (3.84%) in 2010 and 83% of PTC was quoted by kalyani R et al 2010, India

The incidence of PTC diagnosed by FNAC

1.	The present study	66.66%
2.	Rajani .R et al 2010	53.84%
3.	kalyani R, et al 2010,	83%

TABLE.14

In the present study , patients came to hospital with duration of complaints between 3 months to 3 years and Dyspnea in 57.7% of cases and firm swellings in 62.22% of cases where as in another study of 178 patients conducted in Bihar, India, 2012 observed that only 10.1% of patients complaining of Dyspnea and with similar number of firm swelling. The present study observed that 64.44% of thyroid carcinoma are provisionally diagnosed as STN is lower than another study of 135 cases in Nabil Al –Zaher et al 2008 in which only 20% cases are diag-

nosed as STN.

Provisionally diagnosed as STN

1.	The present study	64.44%
2.	Nabil Al –Zaher et al 2008	20%

TABLE.15

Papillary carcinoma is the most common thyroid malignancy in the present study, in unison with international studies. The present study observed 82.22% Medullary carcinoma has the less incidence (4.44%) in the present study

Regional lymphnode metastases are present at the time of primary diagnosis in 20% to 90% of patients with papillary thyroid cancer and to a lesser extent in other histio types . But in the present study only 22.22% of cases of all subtypes were presented with regional lymphadenopathy.

In the present study, Hypoparathyroidism is seen in 48% of post operative cases and Hoarseness of voice in 44% of cases which is higher . But according to large series like SOSA JA et al 1998 virtually the surgeons should be able to perform total thyroidectomies with less than 1% of recurrent nerve injuries, with long term risk of hypoparathyroidism with at 2% to 9%. So it should be mentioned that the experience of surgeon is strongly related to lower complications rate, especially in total thyroidectomy.

Incidence of post surgical complications.

		Hypoparathyroidism	Hoarseness of voice
1.	The present study	48%	44%
2.	C. Gopala Krishnan Nair et al 2013	23.6%	20%
3.	SOSA JA et al 1998	2%-9%	1%

TABLE.16

The incidence of anaplastic carcinoma in the present study is 4.44% which is similar to current epidemiologic studies indicating the declining trend of cases. It is thought that these tumors arise from an area of DTC but over time dedifferentiation may occur. This tumor is rare, comprising only 1% to 5% of all thyroid malignancies with a peak incidence in the seventh decade of life and incidence that is similar between men and women.

Despite advances, anaplastic carcinoma thyroid remains to have the worst prognosis. It is usually the local growth and obliteration of airway that causes the patient's demise. In the present study, 50% expired within 6 months of diagnosis which is similar to the most institutional reviews. In the present study only 4.44% of patients were sent to radiotherapy.

Follicular thyroid carcinoma is associated with familial syndrome like papillary thyroid carcinoma with papillary renal neoplasia, familial non-medullary carcinoma, familial thyroid carcinoma with cell oxyphilia, familial adenomatous polyposis, Cowden disease, Carney's complex-I and familial medullary cancer syndrome like FMTC, MEN-2A, MEN-2B. Synchronous malignancies of breast and thyroid gland were reported in the literature.

Metastatic deposits in thyroid gland

1.	The present study	0%
2.	Chen H et al 1999	< 1%

TABLE 18

Thyroid carcinoma has a very good prognosis, owing to their early detection by the anatomical location, limited spread beyond the neck, FNA biopsy, various imaging modalities and definitive surgical management options with radio-iodine treatment of cases not amenable to surgical treatment as observed in the present study of 45 patients. With the advent of FNAC, more radical procedures like modified radical neck dissection and the more simpler modality of treatment- radio-iodine therapy, there is an added advantage to the patients with thyroid carcinoma.

While a small percentage of cases are due to the aggressive anaplastic variety, more than 90% of thyroid cancers are well differentiated, and follow an indolent, protracted course. Patients with differentiated thyroid cancer (DTC) usually have an excellent long-term prognosis, with a 5-year survival rates approaching 100% for localized disease. The screening and diagnosis of both primary and recurrent DTC has evolved over the years with increased utilization of thyroid ultrasound, fine-needle aspiration (FNA), molecular testing, and measurement of the serum marker thyroglobulin.

For PTC, therapeutic bilateral central neck lymph node dissection (level VI) is appropriate if there is biopsy proven central or lateral compartment disease prior to operation or central compartment nodal disease is found at the time of surgery. Prophylactic unilateral ipsilateral central lymph node dissection is appropriate for all other PTCs, especially primary tumors greater than 4cm or when extrathyroidal extension is appreciated at the time of surgery. Extent of prophylactic lymph node dissection should be performed weighing the potential benefits for the individual patient with the associated risks of hypoparathyroidism and RLN injury. Therapeutic lateral lymph node dissection is appropriate for patients with biopsy proven metastatic lateral cervical lymphadenopathy. This dissection routinely includes levels IIA, III and IV with the addition of levels IIB and V as warranted by preoperative imaging or intraoperative findings. For FTC and Hurthle cell cancer, no central or lateral neck dissection is indicated unless there is biopsy proven disease prior to surgery or palpable disease is found at the time of surgery. Regarding ATC, given the aggressive nature of this disease, surgical intervention associated with excessive morbidity should be avoided; resections of the

larynx, pharynx and esophagus are discouraged. Surgical resection offers the best opportunity for survival if the tumor is intrathyroidal (rare). Resection of disease that extends beyond the thyroid may be appropriate in highly selected patients as part of multimodal therapy along with radiation and chemotherapy.

The issue of lymph node metastases and prognosis is still debated since lymph node involvement predicts local recurrence but does not contribute significantly to patient survival. Retrospective studies of patient cohorts followed postoperatively for several decades suggest that multimodality adjuvant therapy can decrease local recurrence and may improve survival. The mainstay of adjuvant treatment for well-differentiated thyroid carcinoma is radioactive I¹³¹

treatment and TSH suppression. The use of therapeutic radioactive ablation of remnant thyroid tissue after thyroidectomy is well established, but criteria for the use of this treatment vary among institutions.

Conclusions and Summary :

Certain measures to be followed to improve the diagnosis and follow up of thyroid malignancies:

1. Thyroid swellings in young and males should be viewed with a high suspicion of malignancy.
2. All post operative thyroid specimens should be sent for HPE, not only to confirm the diagnosis but also to rule out an occult malignancy.
3. All cases of Follicular Neoplasms on FNAC should be followed up with a post operative HPE, risk stratification and further management.
4. All patients, once diagnosed of Thyroid malignancy must be educated regarding the low gradedness of the tumour and the need for continuous follow up which has a better survival advantage.
5. Family members of patients of thyroid malignancy should be counselled and educated regarding the importance of follow up and they should also be kept under surveillance.
6. Health education to the health workers in the periphery regarding the early detection of neck swellings and goitre.

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