



## THYROID CANCER : OUR EXPERIENCE !

### ENT

<b>Varsha J.Gattani</b>	Junior Resident, Department of Otorhinolaryngology and Head and Neck Surgery, Government Medical College, Nagpur, Maharashtra, India
<b>Seema Patel*</b>	Associate Professor, Department of Otorhinolaryngology and Head and Neck Surgery, Government Medical College, Nagpur, Maharashtra, India *Corresponding Author
<b>Ashok Z. Nitaware</b>	Professor and Head, Department of Otorhinolaryngology and Head and Neck Surgery, Government Medical College, Nagpur, Maharashtra, India
<b>Ashish Keche</b>	Assistant Professor, Department of Otorhinolaryngology and Head and Neck Surgery, Government Medical College, Nagpur, Maharashtra, India

### ABSTRACT

Thyroid carcinoma accounts for approximately 1.5% of all malignancies and approximately 0.5% of all deaths from cancer. Aims- to study age and gender predilection, and clinical profile of thyroid cancers. A retrospective study including 27 patients with thyroid cancer presented to ENT OPD at GMC Nagpur between January 2017 to December 2019. Detailed history, clinical, cytological and radiological examination was done. Total 27 cases of thyroid cancers, with age range of 10 – 69 years with maximum in age group of 20–40 years. Female preponderance with M:F ratio of 1: 2.8 was noted. Papillary cancer –17 (63%), Follicular cancer –06 (23%), Medullary cancer –02(07%), Anaplastic cancer –02 (07%). 14 (52%) cases were diagnosed on fine needle aspiration cytology and 13(48%) cases were diagnosed on postoperative histopathology. Papillary carcinoma was the most common thyroid malignancy encountered in this study. Various treatment modalities are available to cure thyroid cancers.

### KEYWORDS

#### INTRODUCTION

Thyroid carcinoma accounts for 92% of cancers of endocrine glands. In the last three decades, the incidence of thyroid carcinoma has increased sharply, with the increasing trend restricted almost exclusively to the papillary histotype. Improved understanding of the efficacy of thyroid suppression therapy and radioactive iodine therapy has given us useful adjuncts to surgical treatment. The increasing incidence of thyroid lesions warrants the need for institutions to provide a database of their demographic and clinical profile. In present study, retrospective analysis of patients with thyroid cancers were studied over 3 years with an aim to study the clinical profile, age and gender predilection, type of malignancy, and management of thyroid malignancy.

#### MATERIAL AND METHODS

A Retrospective study carried out at Tertiary Hospital, Government Medical College Nagpur, between January 2017 to December 2019. This study included 27 subjects of Thyroid cancer, diagnosed on FNAC or Histopathology. Detail history and examination was recorded. History related to risk factors was noted in details. Thyroid function tests, USG Neck, FNAC, CT Scan, Histopathological examination and routine haematological investigations were done in all cases. Lymph nodal status of neck and distant metastasis was investigated. Preoperative indirect laryngoscopy or 70 Degree endoscopy findings were recorded. Treatment modalities like Thyroidectomy with /without neck dissection or Radioablation was done. Post-operative complications were recorded. Statistical analysis was done by Statistical software, STATA VERSION 14.0.

#### RESULTS

Out of 27 subjects of thyroid malignancy, maximum patients were in the age group of 31 to 40 years (37%), followed by 21 to 30 years (29%), 41 to 50 years(14%), 51 to 60 years(11%) and one patient each in age group of 10-20 years and 61 to 70 years.[Table 1] The youngest patient in our study was 10 years while oldest was 69 years.

**Table 1: Age Distribution Of Thyroid Cancer**

AGE DISTRIBUTION	NO. OF SUBJECTS	PERCENTAGE
10-20 years	01	03
21-30 years	08	29
<b>31-40 years</b>	<b>10</b>	<b>37</b>
41-50 years	04	14
51-60 years	03	11

61-70 years	01	03
TOTAL	27	100

20(74%) subjects were females while 07(26%) subjects were male. Thus the thyroid cancers showed female predominance with the female to male ratio of approximately 2.8:1. All cases presented with swelling in front of neck(100%). Associated complaints were, 07(26%) subjects with bulky thyroid swelling complained of difficulty in swallowing, 02(07%) with difficulty in breathing, 03(10%) with pain in neck, 04(14.8%) with cervical lymphadenopathy and 01 (03.5%) with hoarseness of voice. The duration of symptoms ranged from 3 months to 36 months. Most of the thyroid swellings were hard in consistency 13(48.1%) followed by firm 10(37%), nodular consistency in 03(11%) cases and soft consistency in 01(03%) case. On USG, all swellings showed neoplastic etiology. On Cytological examination, 14 (52%) cases were diagnosed for thyroid malignancy. Amongst FNAC findings, papillary carcinoma was reported in 10 cases, medullary carcinoma in 02 cases and anaplastic carcinoma in 02 cases. On FNAC 13(48%) cases were diagnosed as non-malignant, which turned out to be malignant on histopathological examination after surgical management. Out of which 07(30.43%) cases were papillary carcinoma and 06(22.22%) cases were follicular carcinoma, which had findings of follicular neoplasia on FNAC. [Table 2]

**Table 2: Diagnosis On FNAC And HPE**

Type Of Malignancy	FNAC	Histopathology
Papillary Carcinoma	10	07
Follicular Carcinoma	00	06
Medullary Carcinoma	02	00
Anaplastic Carcinoma	02	--
TOTAL	14	13

17(62.96%) cases underwent Total thyroidectomy procedure and 08(29%) cases underwent Hemithyroidectomy out of which further 07 cases underwent Completion thyroidectomy in view of postoperative histopathological report of malignancy and one patient whose lesion was less than 1 cm was kept under regular followup. All the patients were checked for Central compartment neck nodes. Two cases had bilateral neck nodes including supraclavicular nodes in whom Bilateral neck dissection was done in 04(14.8%) cases in which metastatic nodes were present. Radionuclide scan was done in 10 patients after postoperative 4 weeks and 01(03%) case underwent radioablation for residual lesion. TSH suppression therapy was started

in all patients after radioiodine scan. 02(07%) cases of anaplastic carcinoma did not undergo any surgical treatment. Postoperative complications were seen in 08(30%) cases. Transient hypoparathyroidism were seen in 05(18%)cases which manifested with signs of Hypocalcemia and they recovered within weeks when started on calcium supplementation. Transient Change in voice in postoperative period was seen 01(03%) case, which recovered in a month with steroids. Postoperative wound infection was seen in 01(03%) case which responded to antibiotics.

FNAC reports were able to diagnose additional malignancy in 14(52%)cases which were papillary, medullary and anaplastic types. Histopathology was able to diagnose malignancy in 13(48.1%)cases which were papillary and follicular types.

## DISCUSSION

In present study, maximum patients(66 %) were in the age group of 21 to 40 yrs and female preponderance and the mean age at diagnosis was similar to the study by Rossie et al.<sup>1</sup>

In our study, female preponderance with Male:Female ratio of 1:2.8 was found. This was similar to the study done by Davies L et al<sup>2</sup> and many other studies. Although, clear relation between gender and PTC (and other histological types of thyroid cancer) has been established, the exact reason behind these gender disparities remains to be solved and the effects of oestrogen on thyroid cancer cells is being actively explored.<sup>13</sup> Risk factors for thyroid cancer like family history and history of irradiation in past were not found in our study. Papillary thyroid carcinoma is reported in the literature to be the most common histological sub-type of thyroid carcinoma accounting for 60-70% of cases<sup>1</sup> followed by follicular carcinoma (15-25%).<sup>3</sup> This was in concordance with the present study. [Table 3].

**Table 3:comparison Of Histopathological Types Of Thyroid Carcinoma**

Types Of Thyroid Malignancies	Present study	Htwe et al <sup>10</sup>	Tsegaye and Ergete et al <sup>11</sup>
Papillary carcinoma	62.96 %	71%	76.6 %
Follicular carcinoma	22.22%	25.4 %	15.6%
Medullary carcinoma	07.40 %	0%	1.6 %
Anaplastic carcinoma	07.40%	3.6 %	6.2%
Others	0%	0%	0%

Studies have shown that papillary carcinoma can occur at any age and rarely has been diagnosed as a congenital tumour. It is to be stressed that most cases of papillary carcinoma are diagnosed on FNAC. <sup>4</sup>The false negative FNAC results may occur due to error in sampling or misinterpretation of cytology. The rate of failure to diagnose cancer could be attributed to the failure of aspiration from precise location and inability to distinguish between follicular adenoma and follicular carcinoma. False negative cytology results may cause delay in treatment and hence adversely affects the outcome in patient with thyroid cancer. Controversy exists in the surgical management of differentiated thyroid carcinoma. The proponents of total thyroidectomy <sup>2,5</sup> recommend its use in differentiated thyroid carcinoma because it reduces the small but significant chance of a well-differentiated thyroid carcinoma undergoing anaplastic transformation, allows the measurement of serum thyroglobulin to be used as screening test for recurrent or persistent disease, reduces recurrence rate and eliminates multifocal disease. Those who advocate less than total thyroidectomy<sup>1-3,6</sup> cite the high complication rate associated with total thyroidectomy (parathyroid and recurrent laryngeal nerve injury) coupled with lack of improved survival rates. At our centre, total thyroidectomy was preferred mode of surgical treatment. Radioiodine scan was done for 10 patients after 4 weeks of surgery to check for residual lesion. One patient had to undergo radioablation for small residual lesion at the area of Berry's ligament. Hemithyroidectomy was done in 08(29.6 %)cases, in which FNAC showed benign lesions of thyroid gland and histopathology reports diagnosed thyroid malignancy. 07 cases amongst these underwent completion thyroidectomy. All the patients were started on TSH suppression therapy postoperatively. Transient hypoparathyroidism were seen in 05(18%)cases which manifested with signs of Hypocalcemia. All the 05 subjects recovered within weeks when started on calcium supplementation. Manipulation of thyroid gland during surgery results in ischemic injury and leads transient hypocalcemia. In case of hemithyroidectomy even all parathyroid glands are preserved still postoperative transient hypocalcemia was

seen. It is due to stress which releases ADH which causes hemodilution of serum albumin.<sup>7</sup>The type of thyroidectomy, neck dissection, and paratracheal lymph node dissection is significantly associated with transitory and permanent hypocalcemia.<sup>8</sup>Transient Change in voice in postoperative period was seen 01(03%) case, which recovered in a month when started on steroids. Individual mechanism of RLN injury includes stretch or traction, compression or crush (ligature entrapment hematoma formation) and thermal, electrical and severing injuries. In literature, up to 7.1 % patients have a paresis or temporary palsy where as 3.6% have permanent palsy.<sup>9</sup>

## CONCLUSION :

Malignant cases diagnosed on FNAC underwent total thyroidectomy at primary surgery, thereby obviating the need of revision surgery. Misdiagnosis was more with follicular neoplasms compared to other lesions. Benign cases on FNAC should always be followed up for histopathology report and Completion thyroidectomy should be considered in cases with malignant histopathology report. For complete eradication of carcinoma of the thyroid gland, total thyroidectomy, including the pericapsular lymph nodes, is the treatment of choice. For removal of proved metastasis in the regional lymph nodes, either at the time of thyroidectomy or subsequently, radical neck dissection is indicated followed by radioiodine therapy wherever indicated.



**Figure No 01:Photograph of patient with Papillary carcinoma thyroid-Preoperative, Intra operative and specimen**

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