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Clinical Study of Papillary CarcinomaThyroid

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Abstract
Papillary carcinoma of thyroid is the most common type of thyroid Malignancy. It is more common in females[1]. Most patients are Euthyroid and present with slow growing painless mass in the neck. It spreads more commonly to lateral neck nodes. Diagnosis is established by FNA of Thyroid mass or Lymph node. Characteristic pathological features are Papillary projections with Psammoma bodies& Orphan-Annie eye nuclei. Most patients have Good prognosis with 10 yr survival rate greater than 95%, but depends on several factors.
Keywords: *Papillary carcinoma, Lateral neck nodes, FNA, Psammoma bodies, Orphan Annie eye nuclei.*

Introduction

Papillary carcinoma is the most common Malignancy of Thyroid & accounts for 80% of Malignancies in Iodine sufficient areas. It occurs more often in the women[1] & mean age at Presentation is 30–50 yrs. Papillary carcinoma is the predominant Thyroid Cancer occurring in the Children & individuals exposed to External Radiation[2].

Most Patients are Euthyroid & Present with a slow growing Painless solid/cystic mass in the Neck. It can spread within the gland through Intrathyroidal Lymphatics to other lobe. Most common site for metastasis is Cervical Lymphnodes. Lateral Abberant Thyroid is actually a Lymphnode metastasis from Papillary Carcinoma of Thyroid. Dyspnea, Dysphagia, dysphonia indicates locally advanced invasive Carcinoma. Distant Metastasis is uncommon, but may involve Lungs, Bone, Liver & Brain.

FNAC is diagnostic of Papillary Carcinoma Thyroid. The FNAC diagnosis of Papillary Carcinoma of Thyroid has an almost 100% correlation to a diagnosis of Papillary Carcinoma on final pathology[3] USG neck is done to identify Contralateral lobe involvement& Nonpalpable cervical lymphnodes. Characteristic pathological features are Papillary projections with Psammoma bodies & Orphan-Annie eye nuclei[4]. Papillary carcinoma has different subtypes including Microcarcinoma (<1cm lesion without Lymphnodal & Extrathyroidal involvement)[5], Encapsulated variant, Follicular variant of papillary carcinoma, Tall cell variant and columnar variant.

Rarely Microcarcinomas can present with Metastatic disease[6]. However difference between these rare aggressive microcarcinomas and the usual microcarcinomas have been described with respect to immunoreactivity for cyclin D1 and p27[7]. Tall cell variant has a significantly higher incidence of

extrathyroidal disease, recurrence, and metastases when compared with the usual variant of papillary carcinoma from patients of similar age, sex, and date of diagnosis[8,9].

Total Thyroidectomy, with central node compartment dissection with/without Ipsilateral cervical neck node dissection (levels IIA, III, IV and VB) is done depending upon involvement of lateral neck nodes is the ideal treatment option for Papillary Carcinoma of Thyroid. Radioactive iodine therapy is indicated after Post op Biopsy confirmation, if tumour is multicentric, >1 cm size, presence of nodes, extrathyroidal spread.

Papillary Carcinoma of Thyroid have an excellent prognosis with a >95% 10-year survival rate, but it depends on several factors. AGES/AMES criteria is Proposed to classify Prognostic risk for Differentiated Thyroid carcinoma with factors including are 1) Age 2) Extent 3) Size 4) Sex 5) Grade 6) Metastasis. TNM Classification, MACIS Scoring system is also used to predict Prognosis10,11. All scoring systems categorise the patients as High risk for death— 40% in 20 years; Low risk for death—1%in 20 years.

Materials & Methods

All the Patients admitted with Goitre & diagnosed as Papillary Carcinoma of Thyroid in the Department of General Surgery, Government General Hospital, Guntur from September 2020 – September 2022 werestudied.

Aims & Objectives of the study

To find out the

1) Incidence of Papillary Carcinoma in Patients Presenting with Goitre.
2) Risk of Papillary Carcinoma of Thyroid in Males &Females.
3) Incidence of Papillary Carcinoma in various types of Goitre.
4) Age-wise distribution of Papillary Carcinoma of Thyroid.
5) Various Modes of presentation of Papillary Carcinoma.
6) Relationship of Lymphnode metastasis to the size ofPrimary lesion.
7) Sensitivity & Specificity of FNAC in diagnosing Papillary Carcinoma.
8) Prognosis after Initial Surgery.

Results

From September 2020 – September 2022, 104 patients are admitted in the hospital with Goitre. In this Papillary Carcinoma Thyroid is diagnosed in 15 Cases, out of which there are 11 Females & 4 Males. Incidence of Papillary Carcinoma is seen more in Females, but the Risk of Papillary Carcinoma in males presenting with solitary nodule thyroid is more when compared to female patients presenting with the same.

14 cases are Euthyroid at Presentation. Clinical presentation of papillary carcinoma varies in these cases, 13 cases presented as Solitary Nodule Thyroid, remaining 2 are Multinodular Goitre & Lateral Abberant Thyroid each. Lymph Node Metastasis is seen in 7 cases. Risk of Lymph node involvement is More in cases with Primary lesion > 4cms.

FNAC is diagnostic in 12 cases. Excisional Biopsy of the cervical Lymph node is done in 1 case; it shows metastatic deposits of Papillary Carcinoma Thyroid. Remaining 2 cases are diagnosed Post operatively aftergetting the Postop Biopsy Report. No any Distant Metastasis seen.

Total Thyroidectomy with central compartment neck node dissection is done in 6 cases.

In Cases with Cervical Lymph node metastasis, Total Thyroidectomy with central compartment neck node dissection plus Ipsilateral cervical neck node dissection is done.

Completion Thyroidectomy with Central Compartment neck node dissection is done in 1 case.

After Postop biopsy confirmation, patients with Primary lesion > 4cms & Lymph node metastasis are advised for Radioactive iodine uptake scan. Remnant Thyroid tissue is detected in 2 patients& they are treated with Radioactive iodine ablation. Supressive dose of L-Thyroxine is prescribed for all the patients & kept on Regular follow up.

No any Recurrence noted till date. Excellent Prognosis is seen in All Cases.

Graph 1

A) Incidence of Papillary Carcinoma Thyroid in cases admitted with Goitre

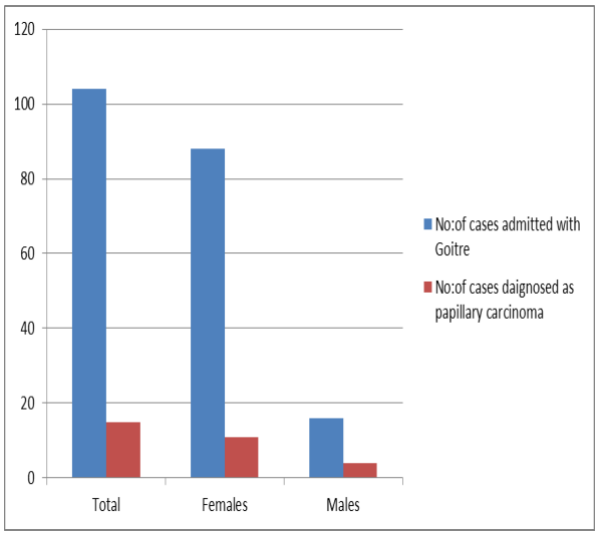

Table 1

B) Incidence of Papillary Carcinoma in various types of Goitres

Type of the Goitre	Results
Solitary Nodule Thyroid(42)	30.9%(13)
MultinodularGoitre(51)	1.96%(1)
Diffuse Goitre(11)	0%

Table:2

C) Age-wise distribution of Papillary Carcinoma incasesadmitted with Goitre

Age of the Patient	Results
21-40 yrs(26)	7.6%(2)
41-60 yrs(56)	21.4%(12)
61-80 yrs(22)	9.09%(2)

Graph: 2

D) Clinical Presentation of Papillary Carcinoma Thyroid

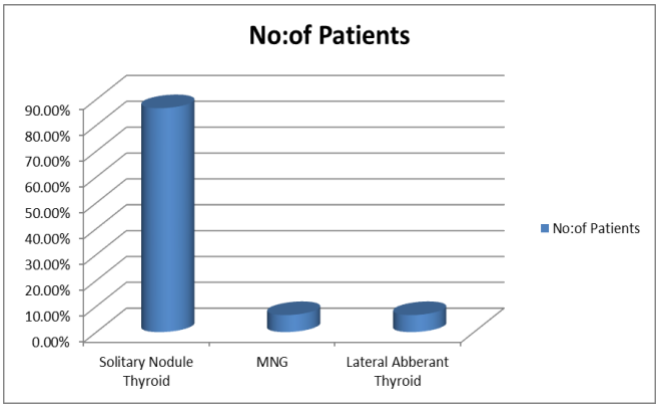

Table:3

E) Relationship between Hormone status & PapillaryCarcinoma Thyroid

Hormone Status	Results
Euthyroid	93.3%(14)
Hypothyroid	6.6%(1)
Hyperthyroid	0%

Table 4

F) Lymph node metastasis in Papillary Carcinoma Thyroid in relation to Size of Primary Leison

Size of Primary Leison	Results
<4 cms(7)	28.5%(2)
4 – 6 cms(5)	60%(3)
6 – 8 cms(3)	66.6%(2)

Table: 5

G) Sensitivity & Specificity of FNAC in Diagnosis ofPapillary Carcinoma of Thyroid

Investigation	Results
FNAC	Sensitivity – 66.67% Specificity - 100%
USG – Guided FNAC	Sensitivity – 80% Specificity – 100%

Table 6

H) Prognosis after Surgery

Characteristics	Results
% of Patients underwent Radio active Iodine ablation therapy postoperatively for Remnant Thyroid	13.3%(2)
Local Recurrence/ Distant Metastasis	0%
Mortality	0%

Discussion

From the above results, it is clear that most of the Swellings were benign thyroid swellings than malignant. Solitary Thyroid Nodule has more risk for Papillary Carcinoma than other types of Goitre.

However, literature tells us that malignant swellings are common in the younger and older extremes of age. This is not reflected here in this study because, there are lesser number of patients in the>60yrs age group.

It also shows that there is more number of females in the study than males. But the Relative risks of

malignant thyroid swellings are more in the males. This is in accordance to literature that tells us that being of male sex is a risk factor for malignancy.

It also confirms that majority of the patients are Euthyroid at initial presentation, though it was taught that Cold nodule has more risk of malignancy.

It also correlates the size of the primary lesion with the Lymphnode metastasis, showing that the Risk of lymphnode metastasis increases only when the size of primary lesion is >4cms. This is in contrast with the studies showing that Increased risk is seen, if primary lesion >1cm.

In this study it shows that Specificity of FNAC was almost >98% in diagnosing Papillary Carcinoma of Thyriod, but Sensitivity of FNAC was 66.6% which was increased up to 80% when FNAC was done under Ultrasound Guidance, in accordance to literature.

It also shows the importance of Postop Radioactive iodine scanning in detection & ablation of any Remnant tissue after surgery & Distant Metastasis in high risk individuals.

Conclusion

Papillary carcinoma have an excellent prognosis if we resects the complete macroscopic tumor even in patients with metastasis to Lateral neck nodes& regular follow up of Patients Lymph node status does not alter the prognosis of papillary carcinoma of thyroid.

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