IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 19, Issue 6 Ser.17 (June. 2020), PP 10-14
www.iosrjournals.org

A Clinical Study of Malignancy in Solitary Thyroid Nodule

Dr.K. Manohar;Dr G Prasanna Lakshmi Bai;Dr. G.V. Prakash;Dr. G.V. Ramanaiah;Dr Gsr Harish

ABSTRACT
BACKGROUND: *Solitary nodule of thyroid has increased in incidence in the resent day as compared to two decades before. Because of Possibility of malignancy all nodules have to be removed.*
MATERIALS AND METHODS: *Prospective study of 100 patients who presented to the outpatient department and surgical wards of S.V.R.R.G.G.H, Tirupathi. During the period of September 2018 to August 2019 with a clinically detected STN was included in the study group.*
Preoperative Ultrasonography (USG) and fine-needle aspiration cytology were planned in all these patients.
Hemi thyroidectomy and Total thyroidectomy with and without neck dissection were performed wherever appropriate.
RESULTS: *Commonest presentation of solitary thyroid nodule was asymptomatic.The peak incidence of solitary nodule was observed in 3-5 th decade , constituting 60% of the cases studied. Females predominated in number over males in occurrence of solitary thyroid nodule in ratio of 1;4.88.The common causes of solitary thyroid nodule was Nodular goiter(67%),follicular adenoma(19%)(excluding MNG).97% of cases presented with Euthyroid state. incidence of malignancy in solitary thyroid nodule was 12%.Male to Female ratio in case of malignant nodule was 1:8.5.but incidence of carcinoma in males presenting as solitary nodule was higher(41%) compared to that of females(9%).The most common cause of malignancy was papillary carcinoma(75%) followed by follicular carcinoma(25%).*
CONCLUSION: *Solitary thyroid nodule is more common in females.*
Solitary thyroid nodule is more common in the age group of 20-50 years.
Most of patients with STN present with swelling alone.
Most of patients with STN are euthyroid state. Only few present with toxicity and hypothyroidism.
Incidence of malignancy in male patients presenting with STN is more compared to females.
Common cause of STN is Adenoma (excluding MNG).
Papillary carcinoma is the most common malignancy of thyroid, followed by follicular carcinoma.
KEY WORDS*: Solitary thyroid nodule, Papillary carcinoma, Incidence of carcinoma, Adenoma, MNG.*

Date of Submission: 10-06-2020 Date of Acceptance: 27-06-2020

I. Introduction

Thyroid nodules are very common. The incidence of nodules in general population is 4-7%. Solitary nodules of thyroid are four times more common in women than in men. Overall incidence of malignancy in solitary thyroid nodule ranges from 8-10% solitary nodule is defined as a palpable single clinically detected nodule in the thyroid is discovered by either the patient or the clinician. Because of possibility of malignancy, some clinicians especially those in surgical Specialities recommend that all nodules have to be removed. On the other hand endocrinologist recommends FNAC performed as initial step of evaluation in order to avoid unnecessary surgery.

II. Materials And Methods

The present study on "Clinical Study of malignant in Solitary Thyroid Nodule" has been conducted by utilizing 100 cases admitted and managed in the Department of general surgery SVRRGGH,Tirupathi.
Study Design: Prospective study.
Study Location: SVRR Government General Hospital,Tirupathi.
Sample size: 100 cases.
Study Duration: September 2018 to August 2019.
Subjectives and selective methods: Total 100 cases admitted and managed in the Department of General Surgery,S.V.R.R.Govt.General Hospital,Tirupathi.
Inclution criteria:
Patients above 18 years of age clinically presenting with Solitary thyroid nodule.

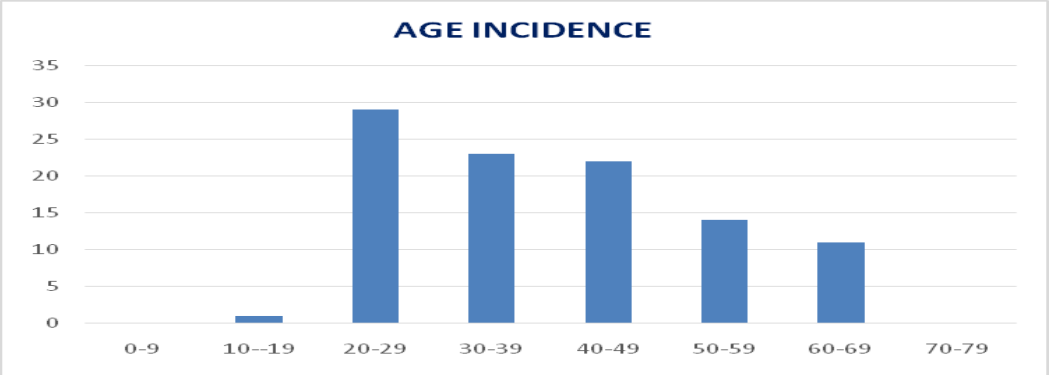
Exclution criteria:
All patients below 18 years, patients with MNG ,Patients with thyroid swelling other than STN.
Procedure methodology: Data collection by meticulous history taking and clinical examination appropriate laboratory and radiological investigations,operative findings , histopathological report and follow up of cases.
STATISTICAL ANALYSIS:The data were entered in to Microsoft Excel datasheet and was analysed using SPSS 22 version software.Grafical representation of data,MS Excel and MS word was used to obtain various types of graphs such as bar diagrams.

III. Results

Total of 100 cases of solitary nodule of thyroid(confirmed by USG excluding MNG) studied and following conclusions were drawn:

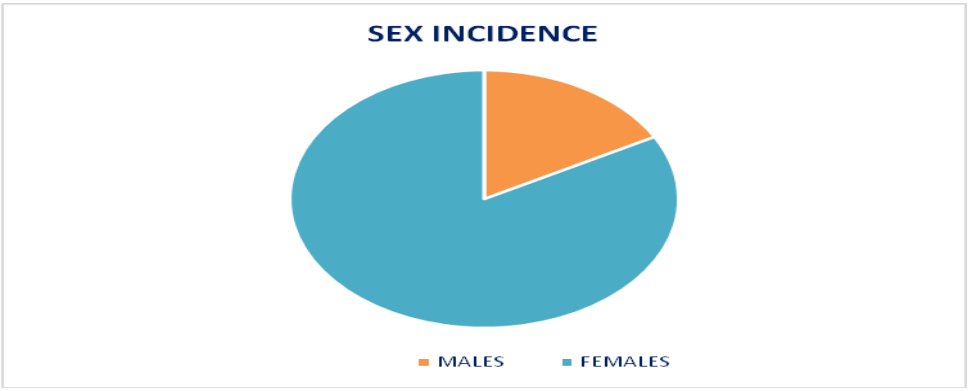
Age Incidence:
The age of the patients ranges from 18 years to 80 years, with peaks being in 3rd to 5th decades. The mean age of presentation is 34.5 years. Cases in 3rd to 5th decades constitutes 60% of the cases studied.

AGE IN YEARS	NO. OF PATIENTS
0-9	0
10-19	1
20-29	29
30-39	23
40-49	22
50-59	14
60-69	11
TOTAL	100



Sex Incidence:
Solitary nodule of thyroid are much more common in females. Out of 100 cases studied 83 were females and 17 were males, and the ratio comes to M : F = 1:4.88 .

Sex	no. of patients
Males	17
Females	83
Totals	100

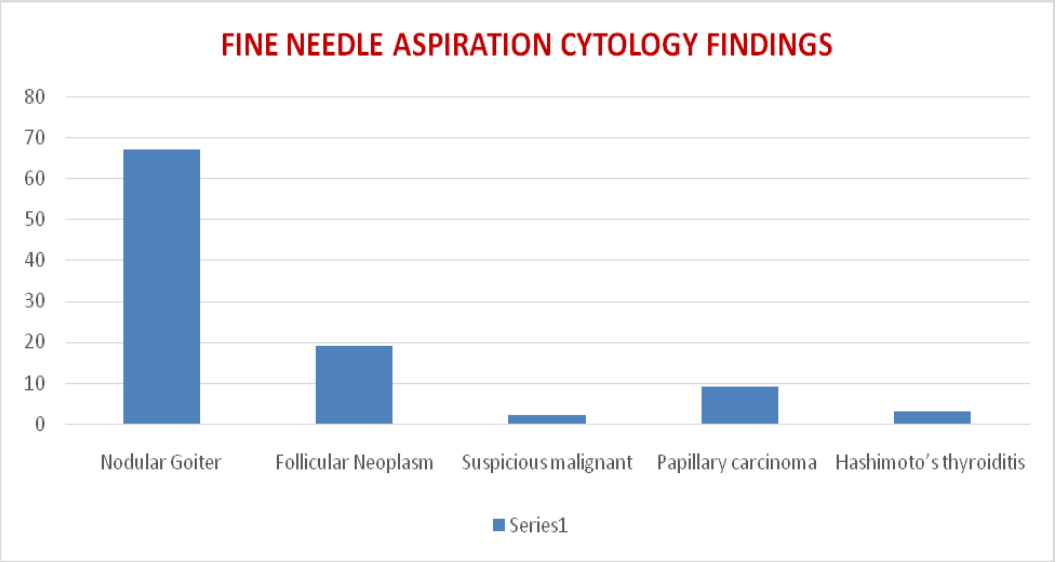


Thyroid functional status:
Out of 100cases, two presented with features of thyrotoxicosis, one with hypothyroidism and rest all were in euthyroid state.

thyroid functional status	No. of patients
Euthyroid	97
Hyperthyroid	2
Hypothyroid	1
Total	100

FNAC FINDINGS:
All 100 cases were subjected to FNAC during the course of evaluation. In our study, out of 19 follicular neoplasms, Two turned out to be follicular carcinoma one turned out to be FVPC.
And 13 cases were follicular adenoma, 3 turned out to be Nodular goiter in final HPE report. Nine cases of papillary carcinoma were diagnosed pre-operatively by FNAC alone.

FNAC reports	No. of patients
N .GOITRE	67
Follicular Neoplasm	19
Suspecious malignancy	2
Papillary carcinoma	9
Hashimotos thyroiditis	3
T0TAL	100



Aetiological incidence of solitary nodule of thyroid:
Out of 100 cases studied, common causes of solitary nodule are Nodular Goitre follicular adenoma.the most common being Nodular Goitre which constitutes about 72% of caseFollicularadenomashave13% incidences.Out of 100 cases, 12 were malignant – 9 papillary carcinoma and 2 follicular carcinoma and one FVPC. Nine cases of papillary carcinoma were diagnosed with certainity by FNAC, two case was suspicious which turned out to be Nodular Goitre on histopathological examination.Out of ninteen cases of follicular adenoma were diagnosed in FNAC 13 cases turned out to be Follicular Adenoma,2 cases turned out to be Follicular Carcinoma, 3 Nodular Goitre and one case turned out to be FVPC in final HPE.

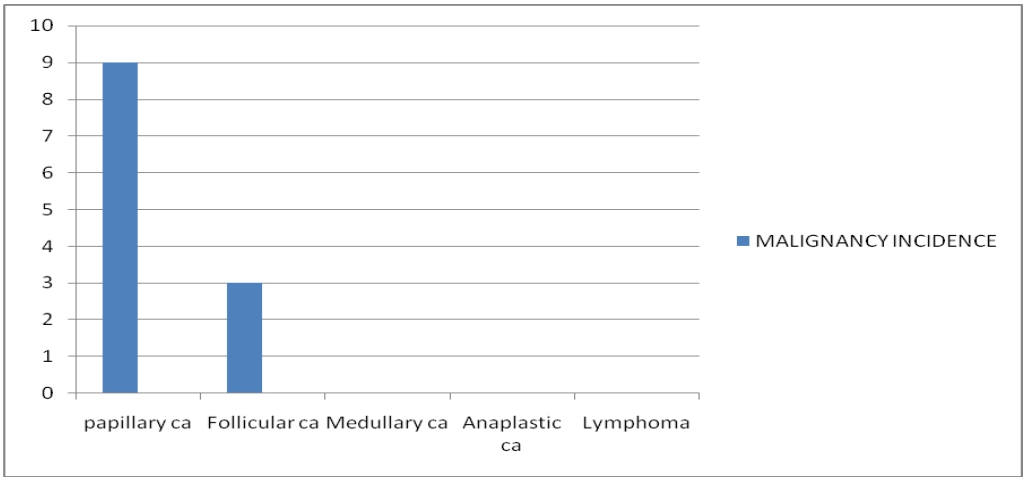
FINAL HPE REPORT:

HPE Reports	No. of patients
Follicular adenoma	13
Nodular Goiter	72
Follicular carcinoma	3
Papillary carcinoma	9
Hashimotos thyroiditis	3
Total	100

Type of carcinoma:

From the study, out of 12 carcinoma, 9 were papillary and 3 follicular: no case of medullary or anaplastic or lymphoma was detected. Papillary carcinoma accounts to 75% and follicular carcinoma accounts to 25%.

Carcinoma	No of cases	percentage
Papillary	9	75%
Follicular	3	25%



INCIDENCE OF MALIGNANCY IN FEMALES AND MALES:

Out of 83 female patients 76 cases are benign and 7 are malignant .out of 17 male cases 5 were malignant and incidence of malignancy in males is 29% and in females is 8. 43%.

SEX	BENIGN	MALIGNANT
FEMALES	76	7
MALES	12	5

IV. Discussion

In the study done by Khurshid Anwar reported, in 2012, the mean age of presentation as 37years. From the present study, the mean age at presentation found to be 34.5years, correlates with the previous studies.In the study done by Dorairajan(1996) and Das DK(1999) reported ratio sex incidence as 1:9 and 1:5.39 respectively. In the present study, it is found to be 1:4.88 which correlates with previous studies.In the present study, among 9 cases of papillary CA, 9 were diagnosed with certainty by FNAC and the rest one was suspicious of malignancy. But 2 cases of follicular CA and one follicular variantof papillary carcinoma were initially reported as follicular neoplasm. From the study, distribution of malignancy is about 7.27, which is comparable with the earlier studies.

From the present study, commonest cause of solitary nodule is Nodular Goiter. which is comparable with the studies done by Fenn(1980) ,Kapur (1982) ,Bhansali(1982). The common causes are follicular adenoma and adenomatous goiter.From the literature, the incidence of malignancy in thyroid nodule ranges from 5% to 30%. From the present study, the incidence found to be 12 %, which is comparable with the study

done by A S Fenn et al, Kapur et al, Rehman A U.

V. Conclusions

Solitary nodule of thyroid is more common in females.
Solitary nodule of thyroid is more common the age group of 20-50years.
Most of the patients with solitary nodule of thyroid are in euthyroid state and only few present with toxicity and hypothyroidism.
Incidence of malignancy in male patients presenting with solitary nodule thyroid is more when compared to female patients presenting with the same.
commonest cause of solitary nodule of thyroid is adenoma(excluding MNG)
FNAC is the investigation of choice in the evaluation of solitary nodule of thyroid. It has few pitfalls. In such situations, only histopathology can confirm the exact pathology. It detects papillary carcinoma in a solitary nodule with high sensitivity and specificity.
Papillary carcinoma is the most common malignancy of thyroid, followed by follicularcarcinoma.

References

[1]. Cole WH, Majarakis JD. Incidence of carcinoma of thyroid in nodular goiter. J Clin Endo Crinol 1949;9:1007-23.
[2]. Harrison BJ, Maddox PR, Smith Dm. Disorders of thyroid gland. In: Cuschieri A, Steele 3.RJC, Moossa AR, editors. Essential surgical practice. 4th ed. London: Arnold; 2002.p.95-110-27.
[3]. Dorairajan N, Jayashree N. Solitary nodule of the thyroid and the role of fine needle aspiration cytology in diagnosis. J Indian Med Assoc Feb 1996;94(2):50-2.
[4]. Burch HB. Evaluation and management of the solitary thyroid nodule. Endocrinol Metab Clin North Am 1995 Dec;24(4):663-94.
[5]. Belfiore A, Rosa GL. Fine needle aspiration biopsy of the thyroid. Endocrinol Metab Clin North Am2001 June;30(2):361-51.
[6]. practice of surgery. 24th ed. London : Arnold;2004.p.776-805.

Dr.K. Manohar, et. al. "A Clinical Study of Malignancy in Solitary Thyroid Nodule." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(6), 2020, pp. 10-14.