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Original Research Article **ENT**

Experience of Prevalence of Thyroid Carcinoma in Thyroid Swelling

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Abstract

***Objective*:** In this study our main goal is to observe the experience of prevalence of thyroid carcinoma in thyroid swelling. ***Method*:** This retrospective study was carried out at tertiary hospital, Dhaka Bangladesh from July, 2021 to December 2022. Total 95 patients with thyroid swelling with normal thyroid hormone profile undergoing thyroidectomy were included as a sample population. ***Results*:** Among the 95 patients highest 23 (24.21%) patients age was (31-40) years. highest 55 (58%) patients were female and 40 (42%) patients were male. highest 42 (44%) patients had Only thyroid swelling and similar 42 (44%) patients had both thyroid+Lymph node enlargement. patients highest 90 (95%) patients had local metastatic and only 5 (5%) had distant metastatic. 58.95% had no complication on surgery. ***Conclusion*:** From our study we can say that, both the initial treatment and follow-up should be individualized according to prognostic indicators and any subsequent evidence of disease.

Keywords: Surgical treatment, Carcinoma Thyroid.

INTRODUCTION

Thyroid swelling, also known as a thyroid nodule or goiter, is a common clinical finding in the general population. While most thyroid nodules are benign, the presence of thyroid carcinoma or thyroid cancer, within thyroid swellings is a significant concern. Understanding the prevalence of thyroid carcinoma in thyroid swellings is essential for accurate diagnosis, appropriate management and optimal patient care [1- 4].

Thyroid carcinoma encompasses several histological types, including papillary carcinoma, follicular carcinoma, medullary carcinoma, and anaplastic carcinoma. Among these, papillary carcinoma is the most prevalent subtype, accounting for the majority of thyroid cancer cases. It is important to note that the presence of thyroid carcinoma within a thyroid swelling does not necessarily indicate malignancy, as the majority of nodules are benign [5- 7].

The prevalence of thyroid carcinoma within thyroid swellings varies depending on several factors, including the patient population, geographical location and diagnostic methods employed. Various studies have been conducted to determine the prevalence rates of thyroid carcinoma in thyroid swellings, providing insights into the extent of the problem and aiding in clinical decision-making.

Ultrasound imaging, fine-needle aspiration biopsy (FNAB), and histopathological examination are commonly utilized diagnostic tools to evaluate thyroid swellings and detect malignancy. These methods help differentiate between benign and malignant nodules, facilitating appropriate treatment strategies [7- 11].

The prevalence of thyroid carcinoma in thyroid swellings ranges widely in different studies, with reported rates ranging from 5% to 30%. Factors such as age, gender, family history of thyroid cancer, radiation exposure and the presence of high-risk features (e.g., larger nodule size, solid composition, microcalcifications) contribute to the likelihood of malignancy within thyroid swellings [12- 14].

OBJECTIVE

- To observe the prevalence of thyroid carcinoma in thyroid Swelling

METHODOLOGY

This retrospective study was carried out at tertiary hospital, Dhaka Bangladesh from July, 2021 to December 2022.The records of history and physical examination finding, investigations, treatment, operative findings and histopathology reports were reviewed. FNAC, thyroid hormone assay, thyroid scan, ultrasonography of thyroid & X-ray chest was done in all cases. X-ray Neck, CT/MRI of Neck, Frozen section, digitonin level, thyroglobuIin level were done in selected cases. Total 95 patients with thyroid swelling with normal thyroid hormone profile undergoing thyroidectomy were included as a sample population. During the study, informed verbal consent was taken. Socio-demographic data such as age, residential area, types of were collected from the patients /parents using standard questionnaires and kept confidential during the research.

Statistical analysis was performed using the Statistical package for social science SPSS version 23.0. A descriptive analysis was performed for clinical features and results were presented as mean ± standard deviation for quantitative variables and numbers (percentages) for qualitative variables

RESULTS

The following table shows the age of the patients. Among the 95 patients highest 23 (24.21%) patients age was (31-40) years. Table 1 shows in details age group of the patients.

Table 1: Age of the patients

Age (Year)	Frequency	Percent
(<10)	2	2.10%
(11-20)	14	14.74%
(21-30)	16	16.85%
(31-40)	23	24.21%
(41-50)	16	16.85%
(51-60)	12	12.63%

The following figure 1 shows the sex distribution of the patients. Among the 95 patients highest 55 (58%) patients were female and 40 (42%) patients were male.

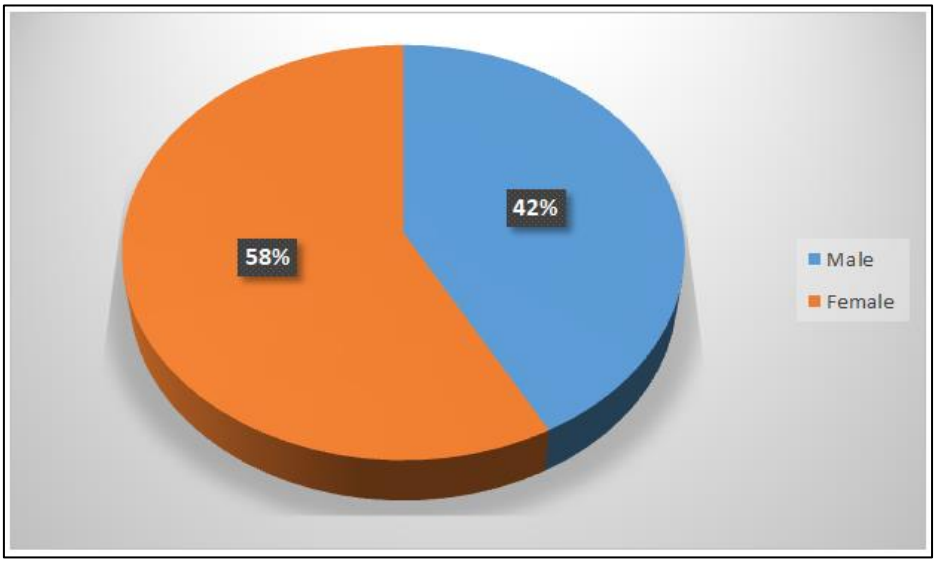

Figure 1: Sex distribution of the patients

The following figure 2 shows the clinical presentation of the patients. Among the 95 patients highest 42 (44%) patients had only thyroid swelling and similar 42 (44%) patients had both thyroid+Lymph node enlargement.

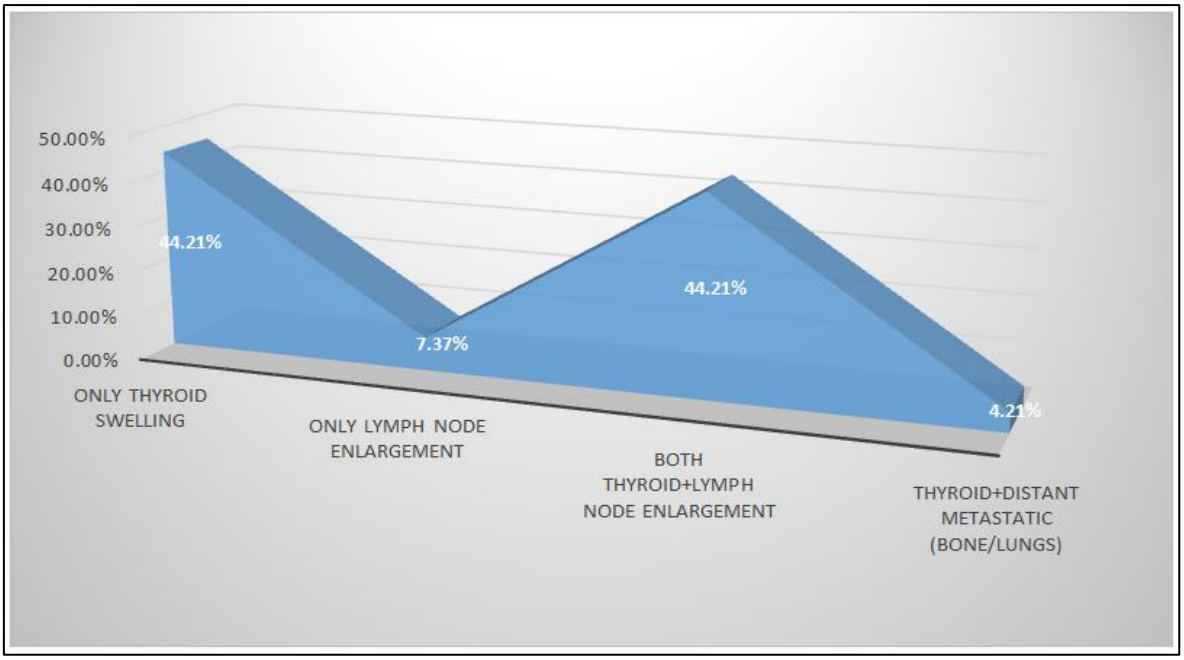

Figure 2: Clinical presentation of the patients

The following figure 3 shows the pattern of metastatic. Among the 95 patients highest 90 (95%) patients had local metastatic and only 5 (5%) had distant metastatic.

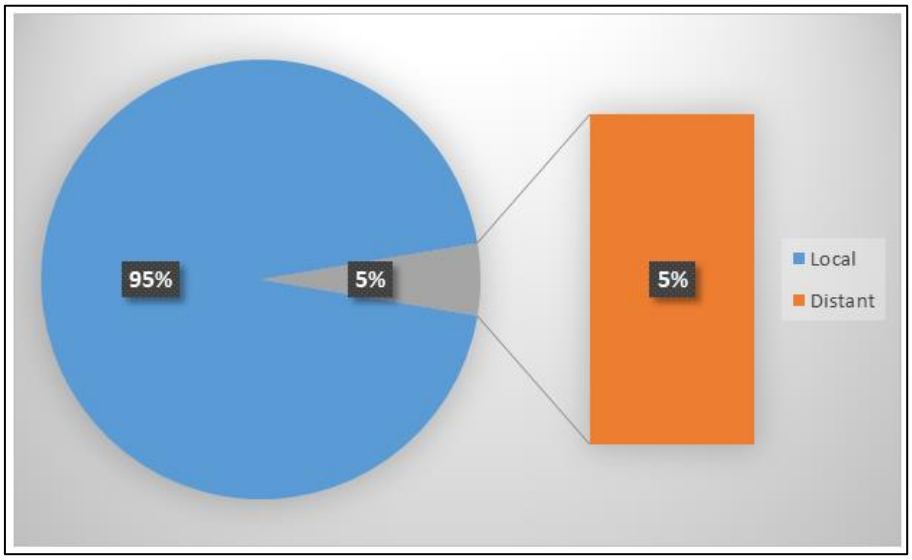

Figure 3: Pattern of Metastatic of thyroid swelling

In table-2 shows stages of thyroid ca expect anaplastic ca. where 49.47% cases had stage-III followed by 32.63% cases had stage-II, 5.26% cases had stage-Iva. The following table is given below in detail:

Table 2: Stages of thyroid ca expect anaplastic ca s of thyroid swelling

Stages	Frequency	Percent
Stage-I	2	2.10%
Stage-II	31	32.63%
Stage-III	47	49.47%
Stage-IVa	5	5.26%
AH Stage IVa	4	4.21%
Stage-IVb	6	6.32%
Total	95	100%

In table-3 shows surgery for primary site where 75.68% had thyroidectomy followed by 16.85% had near thyroidectomy, 2.10% had hemithyroidectomy. The following table is given below in detail:

Table 3: Surgery for primary site

Primary site	Frequency	Percent
Hemithyroidectomy	2	2.10%
Near total thyroidectomy	16	16.85%
Total thyroidectomy	71	75.68%
Completion thyroidectomy	6	6.32%
Total=	95	100%

In table-4 shows extents of neck dissection where 54.68% were Unilateral SND (IIa-Vb) cases followed by 20.31% cases were only VI clearance, 6.25% were Unilateral MRND (III)+LVI cases, 15.62% were Bilateral SND (IIa-Vb) cases. The following table is given below in detail:

Table 4: Extents of neck dissection

Name	Frequency	Percent
Unilateral SND (IIa-Vb)	35	54.68%
Bilateral SND (IIa-Vb)	10	15.62%
Unilateral MRND (III)+LVI	4	6.25%
Bilateral MRND(III)+LVI	1	1.56%
Only VI clearance	13	20.31%
LVI+RND	1	1.56%
Total=	64	100%

In table-5 shows complication of surgery where majority had no complication, 58.95% followed by 22.10% had temporary hypocalcaemia, 4.21% had unilateral permanent RLN palsy, 3.16% had permanent tracheoshy. The following table is given below in detail:

Table 5: Complications of Surgery

Complications of Surgery	Frequency	Percent
No complication	56	58.95%
Hematoma	1	1.05%
Respiratory distress	1	1.05%
Voice change	1	1.05%
Unilateral temporary RLN palsy	2	2.10%
Unilateral permanent RLN palsy	4	4.21%
Bilateral RLN palsy	2	2.10%
Temporary hypocalcaemia	21	22.10%
Permanent hypocalcaemia	2	2.10%
Wound infection	1	1.05%
Hypertrophic scar	1	1.05%
Permanent tracheoshy	3	3.16%
Total=	95	100

In table-6 shows histopathological variations in study group where 75.78% cases were PTC followed by 15.62% cases FTC, 5.26% cases and 4.21% cases were Anaplastic. The following table is given below in detail:

Table 6: Histopathological variations of thyroid swelling

Histopathological variations	Frequency	Percent
PTC	72	75.78%
FTC	10	15.62%
MTC	5	5.26%
Anaplastic	4	4.21%
Others	4	4.21%
Total=	95	100%

In table-7 shows histopathological variations in study group where 75.78% cases were PTC followed by 15.62% cases FTC, 5.26% cases and 4.21% cases were Anaplastic. The following table is given below in detail:

Table 7: Rates of Lymph nodes positive in histopathology study

Rates of Lymph nodes positive in histopathology study	Frequency	Percent
Lymph node positive unilateral	36	37.90%
Lymph node positive bilateral	7	7.36%
No Lymph nodes positive	52	54.74%
Total=	95	100%

DISCUSSION

In one study mean age of the patients were 43.81 years. [3] Where as in our study we found 23 (24.21%) patients age was (31-40) years, which was quite similar to our study. Also, female predominance is higher in our study, 58%. Another study conducted with 82 cases had similar incidence with female predominance and 48 patients had <1 cm tumor diameter [4].

In one report most of the cases were found in euthyroid state. 50 cases (71.4%) presented with lymphadenopathy indicating thyroid carcinoma with local metastasis. 1 case presented with voice change indicating compression of the recurrent laryngeal nerve and in 2 cases large swelling caused difficulty in swallowing. [5] Where as in our study, 42 (44%) patients had Only thyroid swelling and similar 42 (44%) patients had Both thyroid+Lymph node enlargement. Also, 90 (95%) patients had local metastatic and only 5 (5%) had distant metastatic. In one study observed lymph node metastasis in 47 cases out of 82 cases, which is almost similar with another study [6- 7].

One study found, radio ablation was needed in only 5 cases and lo w numbers (5.7%) of local recurrence indicates experience in selection of lymph nodes will result in better outcomes. Occurrence of PTC over and below 45 years were more or less similar with the above-mentioned study. Mean survival of 5.59 years was observed with a standard deviation of 2.64 years and mean hospital stay was around 11 days with a standard deviation of around 5 days, indicates excellent cure with prolong survival and minimum morbidity [8].

During the study, 75.68% had thyroidectomy followed by 16.85% had near thyroidectomy, 2.10% had hemithyroidectomy. 54.68% were Unilateral SND (IIa-Vb) cases followed by 20.31% cases were only VI clearance, 6.25% were Unilateral MRND (III)+LVI cases, 15.62% were Bilateral SND (IIa-Vb) cases. 75.78% cases were PTC followed by 15.62% cases FTC, 5.26% cases and 4.21% cases were Anaplastic.

In United States from 1999-2006, 420 patients were treated with this comprehensive approach, where 5% experienced local recurrence15.5 patients required Radio ablation by using Radio Iodine (I131). One of them needed 4 cycle of therapy. [9] Where as in our study, after surgical approach, majority had no complication, 58.95% followed by 22.10% had temporary hypocalcaemia, 4.21% had unilateral permanent RLN palsy, 3.16% had permanent tracheoshy, which was supported by other studies [11- 14].

CONCLUSION

Among our patients of thyroid carcinoma majority belong to middle aged female patients and slightest occurrence Varity was papillary carcinoma with no regional or distant lymphoid metastasis. They ere treated by surgery with minimal post alternative complication. So, early diagnosis is the key point to the treatment.

REFERENCE

1. Mlccoh, (2002). Minimally lnvaslve video assisted thyroldectomy for papillary carcinoma A prospective study of ~ts c~mpletmxes~ *Surgery*, *132*, 1070-4
2. NCCN (National comprehensive cancer network), (2002) Practice Guidelines in Oncology v1 *Thyroid Carcinoma*.
3. Sippel, R. S., Caron, N. R., & Clark, O. H. (2007). An evidence-based approach to familial nonmedullary thyroid cancer: screening, clinical management, and follow-up. *World journal of surgery*, *31*, 924-933.
4. Hemminki, K., Eng, C., & Chen, B. (2005). Familial risks for nonmedullary thyroid cancer. *The Journal of Clinical Endocrinology & Metabolism*, *90*(10), 5747-5753.
5. Gharib, H., Papini, E., Paschke, R., Duic,k D. S., Valcavi, R., Hegedus, L. (2010). American Association of Clinical Endocrinologists, Associazione Medici Endocrinologi, and European Thyroid Association medical guidelines for clinical practice for the diagnosis and management of th yroid nodules. *J Endocrinol Invest*, *33*(5), 1-50.
6. Noguchi, S., Murakami, N., Yamashita, H., Toda, M., & Kawamoto, H. (1998). Papillary thyroid carcinoma: modified radical neck dissection improves prognosis. *Archives of Surgery*, *133*(3), 276-280.
7. Cooper, D. S., Doherty, G. M., Haugen, B. R., Kloos, R. T., Lee, S. L., Mandel, S. J., ... & Tuttle, R. M. (2009). Revised American Thyroid Association management guidelines for patients with thyroid nodules and differentiated thyroid cancer: the American Thyroid Association (ATA) guidelines taskforce on thyroid nodules and

differentiated thyroid cancer. *Thyroid*, *19*(11), 1167-1214.

8. Bilimoria, K. Y., Bentrem, D. J., Ko, C. Y., Stewart, A. K., Winchester, D. P., Talamonti, M. S., & Sturgeon, C. (2007). Extent of surgery affects survival for papillary thyroid cancer. *Annals of surgery*, *246*(3), 375.
9. Sosa, J. A., Bowman, H. M., Tielsch, J. M., Powe, N. R., Gordon, T. A., & Udelsman, R. (1998). The importance of surgeon experience for clinical and economic outcomes from thyroidectomy. *Annals of surgery*, *228*(3), 320.
10. Kent, W. D., Hall, S. F., Isotalo, P. A., Houlden, R. L., George, R. L., & Groome, P. A. (2007). Increased incidence of differentiated thyroid carcinoma and detection of subclinical disease. *Cmaj*, *177*(11), 1357-1361.
11. Ahn, H. S., Kim, H. J., & Welch, H. G. (2014). Korea's thyroid-cancer "epidemic"—screening and overdiagnosis. *N Engl J Med*, *371*(19), 1765-1767.
12. Davies, L., & Welch, H. G. (2006). Increasing incidence of thyroid cancer in the United States, 1973-2002. *Jama*, *295*(18), 2164-2167.
13. Sikder, M. A. H., Rahman, A., Khair, M. A. (2012). Accuracy of fine needle aspiration cytology in the diagnosis of thyroid swellings..J Dhaka National Med. *Coll.Hos*, *18*, (02), 47-51
14. Bloch, M. (1997). Fine needle aspiration biopsy of head and neck masses. *Otolaryngol Head Neck Surg*, *89*, 62-68.