Original Research Paper

Volume - 13 | Issue - 03 | March - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Surgery

A PROSPECTIVE CLINICAL STUDY OF THYROID MALIGNANCIES AND THE ROLE OF SERUM TSH IN PREDICTING MALIGNANCY

Dr. Balivada Pawan Kumar	Post Graduate
Dr. K. Siva Shankar Rao	HOD & Professor
Dr. D. Sai Spandana	Assistant Professor
Dr. Vivek Brundavanam*	Post Graduate *Corresponding Author

ABSTRACT **Introduction:** Serum TSH is an independent predictor of malignancy in thyroid nodules according to the recent publications. Thyroid malignancies could be screened by using this biochemical marker (TSH) as a preliminary step. In this study, we looked into the usefulness of TSH in predicting cancer as well as the typical clinical presentation of thyroid cancers. **Aims And Objectives:** To assess the value of serum TSH measurement as a biochemical predictor of malignancy in suspicious thyroid nodules and to study the clinical manifestations and management of different thyroid malignancies. **Materials And Methods:** Place of Study: NRI Medical College and General Hospital, chinnakakani. Study population: All patients presented to General Surgery Department of NRI medical college and hospital, chinnakakani with clinically suspicious thyroid swellings of malignancy during the study period. Duration of Study: This was done over period Of one year from August 2021 to August 2022. It has a follow up of 6 months. **Results:** Most of the patients were females.40 years is the mean age of malignancy.mean age in male is 59 years and the mean age in females is 38 years. It commonly manifested as a rapidly growing swelling in the thyroid with shorter duration or development of secondary symptoms in a long standing goiter. Most of the patients are presented with STN. Malignancy occurred more frequently in SNT (36%) than MNG (19%).%. Mean preoperative TSH values of benign illness is less compared to those with malignancy. Higher TSH readings were associated with an increased risk of cancer. **Conclusion:** Higher TSH levels are definitely used as a predictor. The FNAC can be reexamined in these circumstances where the TSH result is high to correlated with malignancy. In cases with clinically suspected malignant thyroid swelling with a benign FNAC report, TSH values may be confirm the diagnosis

KEYWORDS : Thyroid, TSH, Predictor of Malignancy

INTRODUCTION

Thyroid diseases are always fascinating. From the primitive procedures of ancient times to the multidisciplinary approach of the current era, the treatment of thyroid problems has changed dramatically over the decades. However, in the current environment, surgery continues to be crucial, particularly for the treatment of thyroid cancer.

90% of endocrine cancers are thyroid cancers. Over the past three decades, there has been a threefold increase in the incidence of thyroid cancer. The surgical outpatient department sees a lot of patients who have thyroid nodules. Only 5-6% of these patients, however, are malignant, therefore not all of them need surgery [1,2]. Malignancy in a thyroid nodule can be detected and predicted using a variety of techniques.

To evaluate a nodule, a clinical examination is always the first step. Additionally thyroid profile is also crucial. This is followed by particular tests that boost the rate of detection. The current gold standard and most important instrument for determining the likelihood of malignancy is fine needle aspiration cytology (FNAC) [3]. Ultrasonography, thyroid scintigraphy, a CT scan, and an MRI are other tests.

Case Study

Place Of Study:

NRI Medical College and General Hospital, chinnakakani. Study population: All patients presented to General Surgery Department of NRI medical college and hospital, chinnakakani with clinically suspicious thyroid swellings of malignancy during the study period. Duration of Study: This was done over period of one year from August 2021 to August 2022. It has a follow up of 6 months.

Inclusion Criteria:

1. Patients with thyroid swellings that are clinically doubtful of cancer, including those that have metastasized.
2. At the time of the initial presentation, at least one FNAC was performed.
3. Prior to any medical intervention, the thyroid profile, particularly the TSH levels, are examined.
4. All cases must be euthyroid both clinically and biochemically.

Exclusion Criteria:

1. Patients who are not in euthyroid state.
2. Those cases in which FNAC has not been done.

All patients were admitted, and a thorough history, clinical examination, and investigation were conducted in accordance with the specified proforma. In all cases, informed consent was obtained before doing a thyroid profile and FNAC.

The risks and complications of surgery and anaesthesia were addressed to every patient who granted consent for surgery. Investigations were sent prior to surgery in accordance with policy.

In every case, a preoperative indirect laryngoscopy was performed to assess the condition of the vocal cords. The clinical diagnosis and FNAC report determined the type of operation to be performed. The final histopathological diagnosis was correlated with the clinical diagnosis, preoperative TSH levels, and cytology. Patients were routinely followed up with for a minimum of six months. Clinical examination, measurement of serum TSH levels, assessment of thyroglobulin levels, and thyroid scan were used as follow-up procedures on a regular basis. In the current study, descriptive and inferential statistical analysis was done. Results for categorical data are reported in Number (%) whereas results for continuous measurements are presented as Mean SD (Min-Max). The 5% level of significance is used to determine significance.

RESULTS:

Table 1 :Age distribution of patients studied

Age in years	Number of patients	%
<20	2	3
21-30	12	20
31-40	11	18
41-50	18	30

51-60	10	17
>60	5	8
Total	60	100

Table 2: Gender distribution of patients studied

Gender	Number of patients	%
Male	10	16
Female	50	84
Total	60	100

Table 3: TSH levels of patients studied

TSH level mU/L	Number of patients	%
0.40-1.39	19	32
1.40-4.99	36	60
>5.0	5	8
Total	60	100

Table 4: Incidence of malignancy according to TSH values in patients studied

TSH values	Number of patients	Number of patients with malignancy`	%
0.40-1.39	19	0	0.0
1.40-4.99	36	13	36
>5.0	5	4	80
Inference	Incidence of Malignancy is significantly associated with higher range of TSH with P<0.001**		

DISCUSSION :

TSH is a known thyroid growth factor. well differentiated thyroid cancers express tsh receptors [4,5]. Although oncogenes and other growth factors are involved in thyroid cancer growth and development[6,7], it seems probable that TSH can act as cancer stimulus. This hypothesis is supported by improved survival in thyroid cancer patients treated with suppressive doses of levothyroxine[8]and by cases of tumor growth post - T4 withdrawl or recombinant TSH[9]. Some studies have showed higher serum TSH levels associated with advanced stages of throid cancer. These findings suggest that TSH may play a central role in the development and / or progression of thyroid carcinomas. Supportive of the TSH receptor's role in cancer are the data on autoimmune thyroid disease and thyroid cancer. An increased incidence of thyroid cancer is seen in patients with antibody evidence of Hashimoto's thyroiditis

CONCLUSION :

There is definitive relationship between higher TSH levels and malignancy. TSH levels could be used as a predictor in clinically suspect malignant thyroid swelling with a benign FNAC report. In such cases where TSH value is high , the FNAC can be relooked to confirm the diagnosis.

REFERENCES :

1) Hegedus L 2004 Clinical practice. The thyroid nodule. N Engl J Med 351:1764– 1771.
2) Mandel SJ 2004 A 64-year-old woman with a thyroid nodule. JAMA 292:2632– 2642.
3) Williams NS, Bulstrode CJK, O'Connell PR, The Thyroid and Parathyroids, Bailey & Love's Short Practice of Surgery, 25th ed. New York: Arnold;
4) Stocker DJ, Burch HB 2003 Thyroid cancer yield in patients with Graves'disease.
5) Shi Y, Zou M, Farid NR 1993 Expression of thyrotropin receptor gene in thyroid carcinoma is associated with good prognosis. Clin Endocrinol (Oxf) 39:269–274.
6) Derwahl M, Broecker M, Kraiem Z 1998 Thyrotropin may not be the dominant growth factor in benign and malignant thyroid tumors. J Clin Endocrinol Metab 84:829–834.
7) Mazzaferri EL 2000 Thyroid cancer and Graves' disease: the controversy 10years later. Endocr Pract 6:221–225.
8) Jonklaas J, Sarlis NJ, Litofsky D, Ain KB, Bigos ST, Brierley JD, Cooper DS, Haugen BR, Ladenson PW, Magner J, Robbins J, Ross DS, Skarulis M, Maxon HR, Sherman SI 2006 Outcomes of patients with differentiated thyroid carcinoma following initial therapy. Thyroid 16:1229–124.
9) Braga M, Ringel MD, Cooper DS 2001 Sudden enlargement of local recurrent thyroid tumor after recombinant TSH administration. J Clin Endocrinol Metab 86:5148–515.