



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1194731>Available online at: <http://www.iajps.com>

Research Article

**TO DETECT THYROID CARCINOMA IN PATIENTS
PRESENTING WITH GOITER****Dr. Javeria Farid¹, Dr. Muhammad Jarwar², Dr. Mushtaque Ahmed Abbasi³**^{1,2}MBBS, MS, Assistant Professor General Surgery Department of Isra University Hospital,
Hyderabad³MBBS, MS, Assistant Professor General Surgery Department of Peoples University of medical
and Health Science**Abstract:**

Objective: To determine the frequency of thyroid carcinoma in patients with goiter presentation at tertiary care Hospital.

Material and Methods: This descriptive study was carried out in the general surgery department of Isra University Hospital Hyderabad from January 2012 to December 2015. All patients with goiter presentation were included. Diagnosis was performed with ultrasound, fine needle aspiration cytology and thyroid function tests, and they were offered surgery as treatment for suspicions of malignancy. The specimens were referred to diagnostic laboratory of Hospital for Histopathological examination to determine the incidence and types of malignancy in association with goiter.

Results: Total 100 patients were selected, out of them 68(68%) were females and 32(32%) were male, 55% patients were found with solitary nodular presentation and 45% were found with multi-nodular goiter. 81% were found with benign tumor and 19% patients were found with malignant tumors. Majority of cases having solitary nodular goiter were found with benign tumor, while malignant tumors were found mostly in the patients with multi-nodular goiter. Among malignant tumors, papillary carcinoma was the most common.

Conclusion: Malignant carcinoma was highly associated with multi-nodular goiter presentation; it should be early detected on early presentation.

Key Words: Thyroid, carcinoma, Goiter.

Corresponding author:**Dr. Javeria Farid**Assistant Professor,
General Surgery Department of
Isra University Hospital,
Hyderabad.

QR code



Please cite this article in press as Javeria Farid et al., **To Detect the Thyroid Carcinoma in Patients with Goiter Presentation**, Indo Am. J. P. Sci, 2017; 4(12).

INTRODUCTION:

Thyroid carcinoma is a relatively rare tumor, but represents the most frequent form of cancer of the endocrine glands. It may present either as a solitary nodule or as a dominant nodule in a multi-nodular goiter. It represents 01% of human neoplasias and its annual incidence is estimated worldwide from 0.5 to 10:100,000 in world population [1]. Thyroid nodule has been reported to be found in 4% to 7% of the population and in 20% to 50% of population by ultrasonography [2,3]. Multi-nodular Goiter (MNG) had been traditionally thought to be at low risk malignancy as compared to a solitary nodule however various studies have reported a 7 to 17% incidence of malignancy in MNG5 [4,5]. The most common variety of malignancy which has been documented in the literature is papillary carcinoma, followed by follicular Carcinoma and follicular variety of papillary Carcinoma [6-8]. Clinical endocrinologists must educate the public and the medical community about the prevalence and importance of thyroid disease. Furthermore, clinical endocrinologists are an important source of information about available treatment modalities for thyroid disease. Several prognostic factors are important for predicting the outcome in patients with thyroid cancer; this information allows appropriate counseling and selective postoperative therapy [9, 10]. Long survival has been observed in a few patients with metastatic disease even without any systemic treatment and particularly when metastases are discovered at an

early stage [11]. Therefore the purpose of this study to assess the frequency of thyroid carcinoma in patients with goiter presentation at tertiary care Hospital.

MATERIAL AND METHODS:

This descriptive study was carried out in the general surgery department of Isra university Hospital Hyderabad from January 2012 to December 2015. All patients with goiter presentation were included. Diagnosis was performed with ultrasound, fine needle aspiration cytology and thyroid function test, and they were offered surgery as treatment for suspicions of malignancy. The specimens were referred to diagnostic laboratory Hospital for Histopathological examination to determine the incidence and types of malignancy associate with goiter.

RESULTS

Total 100 patients were selected, out of them 68(68%) were females and 32(32%) were male, 55% patients were found with solitary nodular presentation and 45% were found with multi-nodular presentation of goiter. Out of 100 patients 81% were found benign tumor and 19% patients were found with malignant tumors. Majority of cases having solitary nodular goiter were found with benign tumor, while malignant tumors were found mostly in the patients with multi-nodular goiter. Among malignant tumors, papillary carcinoma was the most common.

Table 1: Patients distribution according to basic Characteristics n= 100

Basic characteristics	Frequency/ %
Age (mean \pm SD)	48.5 \pm 6.23 years
Gender	
Male	32/(32.0%)
Female	68/(68.0%)
Residence	
Rural	31/(31.0%)
Urban	69/(69.0%)

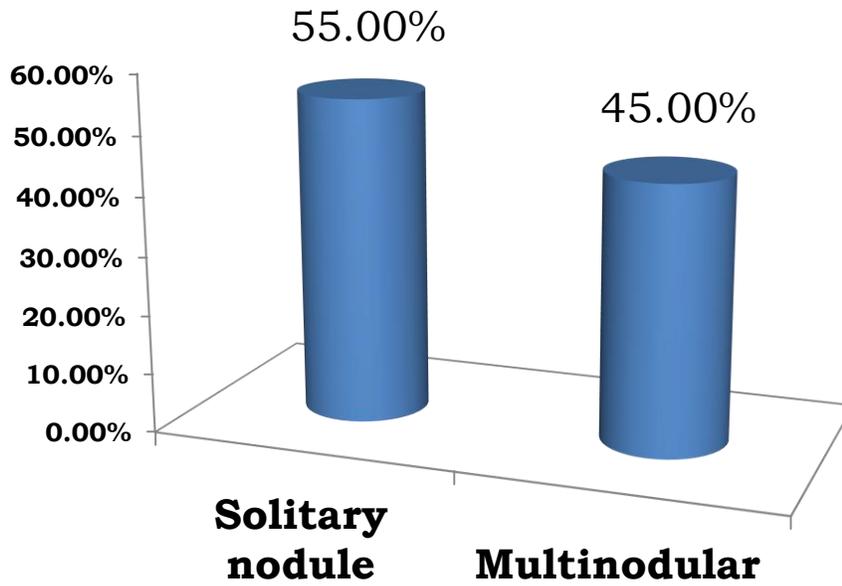


Fig. 1: Patients distribution according to goiter Presentation n= 100

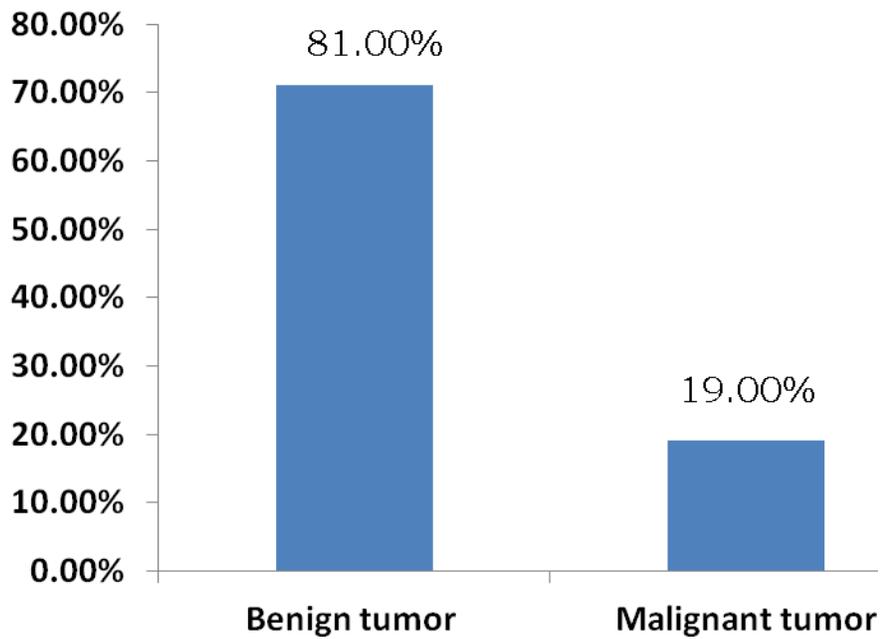


Fig. 2: Patients distribution according to goiter Tumors n= 100

**Table 2: Patients distribution according
Histopathology n= 100**

Types of carcinoma	Frequency/%
Benign tumor n=81	
Thyroid carcinoma	10/(12.34%)
Adenoma	33/(40.74%)
Thyroiditis	20/(24.69%)
Colloid	08/(09.87%)
Malignant tumors n=19	
Papillary	10/(52.63%)
Follicular	04/(21.05%)
Medullary	04/(22.05%)
Anaplastic carcinoma	01/(02.26%)

DISCUSSION:

Globally, incidence of thyroid cancer has increased by up to five-fold during the past 60 years [12]. The annual incidence of thyroid cancer varies considerably in different registries and is increasing in some European countries, USA and Canada [13]. There are several possible reasons for the increase in thyroid cancer and include ionizing radiation, sex hormones, iodine deficiency and other factors but the findings are inconsistent [14,15].

Traditionally patients with MNG have been considered less at risk of malignancy than those with single nodule. However, published report show that the incidences of malignancy in patients with single nodule dose not differ from those with MNG [16]. In this study out of total cases 68(68%) were females and 32(32%) were male, 55% patients were found with solitary nodular presentation and 45% were found with multi-nodular presentation of goiter. Similarly in the study of Inayatulkhah et al [17] reported that the female predominated the male in the ratio of 7.5:2.5.

In this study carcinoma was found 29% of the cases, out of them 19% cases having mutli-nodular goiter presentation. As well as multi-nodular goiter is a risk factor for epidemiologically ascertained thyroid malignancy [18]. Studies have demonstrated the incidence of malignancy in patient with Multi-nodular goiter was higher than the incidence of general population [19]. A study which was conducted by Benzarti et al [19] in Tunis found a 9.5% incidence of malignancy in Multinodular goiter. Whereas Alagic et al [20] reported an 8% incidence of malignancy in Multinodular goiter in his study. Prades et al [21] from France however reported quite

a high incidence ie 12.2%. Baloch MN [22] found malignancy 14% of cases. A rather lower prevalence rate of 11% was reported by Memon W et al [23]. In a recent study conducted at JPMC in Karachi, the frequency of thyroid malignancy was found to be 15.33% [24]. In a similar study at JMPC Karachi, the author found malignancy in 14.35% [25]. In this series papillary carcinoma was found most common in the 10 cases. There appears to be general agreement in all these studies that papillary carcinoma is the predominant malignancy in multi-nodular goiter goiter. Inayatulkhah et al[17], reported that papillary carcinoma was the most common thyroid malignancy. This is consistent with figure from various national and international studies [25].

CONCLUSION:

Malignant carcinoma was highly associated with multi-nodular goiter presentation. The risk of malignancy in multi-nodular goiter should not be under estimated as majority of the patients with thyroid cancers present with multi-nodular goiter. It is quite significant and is mostly of the papillary type. It should be early detected on early presentation.

REFERENCES:

1. Franceschi S, Epidemiologia del carcinoma della tiroide. In: Miani P eds. It carcinoma della tiroide. Pisa: pacini Editore.1992: 13-29.
2. Mazzaferri EI, de los Santos ET, Rofagha – Keyhani S Solitary thyroid module: diagnosis and management, med Clin North am 1988: 72: 1177-211.
3. Gondolfi PP, Frishina A Raffa M Renda F Rocchetti O. Ruggeri C et al . The incidence of thyroid carcinoma in multi-nodular goiter: a

retrospective analysis, *Acta Bio Medical Ateneo Parmense* 2004; 75: 114-17.

4. Cole WH, incidence of carcinoma of the thyroid in nodular goitre. *Semin surg oncol* 1991; 7(2): 61-63.

5. Sachmechi I, Miller E Varatharajah R. Thyroid carcinoma in the single cold nodules and in the cold nodules of multi –nodular goiters *Endocr Pract* 2000; 110-12.

6. Koh KB, Chang KW. Carcinoma in multi-modular goiter. *Br J Surg* 2012; 79(3): 266-67.

7. Najum ul Haq R, Ali Khan B, Ahmed Chaudhry I. Prevalence of malignancy in goiter-a review of 718 thyroidectomies. *J Ayub Med Coll Abbottabad* 2009; 21(4): 315-21.

8. Cerci C Cerci SS Eroglu E Dede M Kapucuoglu N yildiz M, et al Thyroid cancer in toxic and non- toxic multi- nodular goiter. *J Postgrad Med* 2007; 53: 157-60.

9. Mazzaferri EL, Jhiang SM. Long-term impact of initial surgical and medical therapy on papillary and follicular thyroid cancer [published erratum appears in *Am J Med.* 1995; 98:215]. *Am J Med.* 1994; 97: 418-428.

10. Shaha AR, Loree TR, Shah JP. Prognostic factors and risk group analysis in follicular carcinoma of the thyroid [with discussion]. *Surgery.* 1995;118: 1131-1138.

11. American Thyroid Association Guidelines Task Force. Kloos RT, Eng C, Evans DB et al. Medullary thyroid cancer: management guidelines of the American Thyroid Association. *Thyroid* 2009; 19: 565–612.

12. Whelan SL, Parkin DM, Masuyer E. Patterns of cancer in five continents. *IARC Sci Publ* 1990; 102: 152-3.

13. Davies L, Welch HG. Increasing incidence of thyroid cancer in the United States, 1973-2002. *JAMA* 2006; 295:2164-7.

14. Sakoda LC, Horn-Ross PL. Reproductive and Menstrual History and Papillary Thyroid Cancer Risk. The San Francisco Bay Area Thyroid Cancer Study I. *Cancer Epidemiol Biomarkers Prev* 2002;11:51-7.

15. Markaki I, Linos D, Linos A. The influence of dietary patterns on the Development of thyroid cancer. *Eur J Cancer* 2003;39:1912-9.

16. Rios A, Rodriguez JM, Balsalobre MD, Torregrosa NM, Tebar FJ Parrilla P, Results of surgery for toxic multinodular goiter surg today 2005; 35(11): 901-06.

17. Inayat Ullah, Muhammad Hafeez, Naseer Ahmad, Ghulam Muahammad, Sanum Gandapur. Incidence Of Thyroid Malignancy In Multinodular

Goiter. *J. Med. Sci. (Peshawar, Print)* October 2014;22;4:164-165

18. Sarda AK, Kapur NM, Thyroid surgery in an area of iodine deficiency. *Head Neck* 2005; 57(5): 383-89.

19. Benzarti S, Miled I. Bassoumi T Ben Mrad B Akkari K Bacha O et al. Thyroid surgery (365 cases): the risks and complication, *Rev Laryngol otol rhinol (Board)* 2002, 123(1): 33-37.

20. Alagic-sumailbegovic J, Kapidzic A Sutalo K, Resic M, Hadzic E Surgical treatment of thyroid gland disease, *Med Arh* 2005; 59: 241-43.

21. Prades JM, Dumollard JM, Timoshenko A, Cheikh L, Michel F Estour B, et al. Mlti-nodular goiter: surgical management and histopathological findings. *Eur Arch Otolarygol* 2002; 259: 217-21.

22. Baloch MN, Aslam T, Maher M Rational for near total thyroidectomy pak *J surg* 2007; 23: 177-79.

23. Memon W, Khanzada TW, Samad A, Kumar B. Incidence of thyroid carcinoma in multinodular goiters. *Rawal Med J* 2010; 35: 65-67.

24. Bukhari U, Sadiq S, Memon J, Baig F Thyroid carcinoma in Pakistan: a retrospective review of 998. *Biomedica.* 2010; 26(1): 10-13.

25. Hussain N, Anwar M, Nadia N, Ali Z. Pattern of Surgically Treated thyroid disease in Karachi *Biomedica* 2005, 21: 18-20.