

Histopathological Spectrum of Surgically Treated Goiters in Muzaffarabad

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ABSTRACT

Background: Huge population of Azad Jammu and Kashmir is suffering from thyroid enlargement and it is not uncommon in hilly area of Muzaffarabad division.

Aim: To evaluate the histopathological spectrum of operated goiters in Muzaffarabad.

Methods: A total of 283 cases were operated, 243 were female, and 37 were male. The patients with goiters admitted through surgical outpatient clinical in Abbas Institute of Medical Sciences. Elective surgery was performed on all the patients and the labeled specimens were sent to Aga Khan Laboratory, Armed forces Medical Institute histopathological department and Pathology department of AK CMH Muzaffarabad in collaboration with department of pathology AIMS Muzaffarabad.

Results: The male to female ratio 6.56:1. The age range was 16 to 65. The mean age was 40.5 years. Multi Nodular goiter was the common thyroid disease. Follicular adenoma was seen next 35 (12.36%) cases. Amongst the 18(6.36%) cases of thyrioditis, lymphocytic thyrioditis was seen in 17 cases which were more common than hashimoto's thyrioditis. The incidence of malignancy was 28.97%. Papillary carcinoma have higher incidence than follicular carcinoma.

Conclusion: A large population of AJK was having thyroid goiter with female and middle age predominance. Benign enlargement was leading cause of goiter while among malignancy papillary carcinoma was more common in our population as compare to other malignant

Key words: Multinodular goiter, thyrioditis, thyroidectomy, follicular adenoma, papillary carcinoma

INTRODUCTION

Enlarge thyroid are the common surgical problems in the tertiary care hospitals. Patients usually present late to the hospital having being living in the far flung areas. Enlarge goiters commonly presents with breathing problem and obstructed symptoms in the neck. Female are effected more than male population and the prevalence of the huge enlargement of the goiters increase with age due to deficiency of iodine and substantive exposure to the radiations¹.

The commonest presentation of the thyroid enlargement is multi nodular pattern. But solitary nodules are the colloidcysts do exist. Some of the solitary nodule may exhibit malignancy. Distressing complaint is due to huge volume of the swelling urge the patient to seek medical and surgical advice. During patient evaluation marked variation in the prevalence of the thyroid tumor seen in different region of the world^{2,3,4}.

It is generally observed that thyroid tumor are more common in female than male and occur after the fifth decade of life⁵. The prevalence of the

papillary carcinomas is higher in iodine rich areas⁶.

The purpose of this study was to observe histopathological spectrum and frequency of the thyroid disease after surgical excision of the huge goiters.

MATERIAL AND METHODS

The patients with goiters admitted through surgical outpatient clinical in Abbas Institute of Medical Sciences. Elective surgery was performed on all the patients and the labeled specimens were sent to Aga Khan Laboratory (Figure 3), Armed forces Medical Institute histopathological department and Pathology department of AK CMH Muzaffarabad in collaboration with department of pathology AIMS Muzaffarabad during year 2003 to 2008. The specimens were sent in 10% formalin solution. The histopathological report was then collected from the Pathology department of AIMS Muzaffarabad. The emergency neck swelling patients with huge goiters were not included.

RESULTS

Among the 283 patients 37 were male and 243 were females. The male to female ratio was 6.56:1. The minimum age was 16 year and 65 was the maximum. The spectrum of thyroid disease as revealed by the

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reports was multi nodular goiter 123, colloid goiter 15, thyroid cyst 09, auto immune thyrioditis 17, granulomatous thyrioditis one case, thyroid malignancy 82 cases (Fig. 1 and 2). Follicular adenoma 35 cases, hurthle cell adenoma one cases. Among 82 cases of the thyroid malignancy, 58 were papillary, 18 follicular, 03 medullary, 02 anaplastic and one hurthle cell carcinoma respectively. None of the specimens yield lymphoma.

Fig. 1: Distribution of etiology of goiters (n=283)

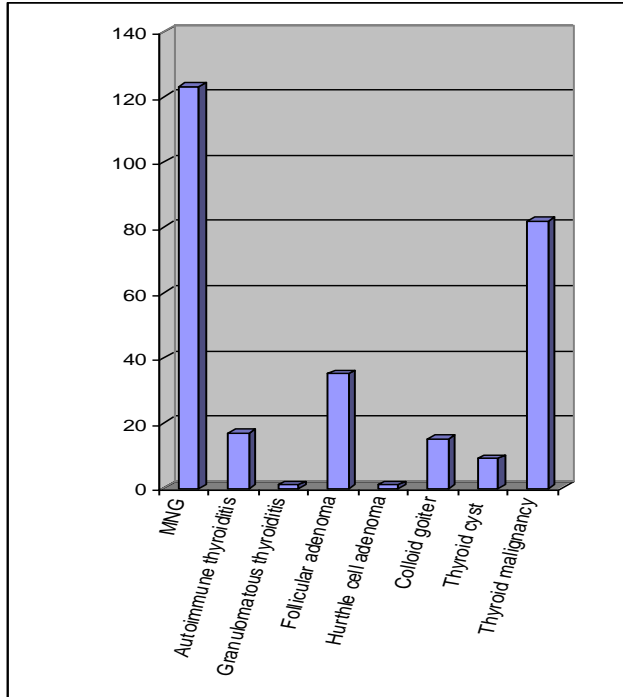


Fig.2: Distribution of type of thyroid disease (n= 82)

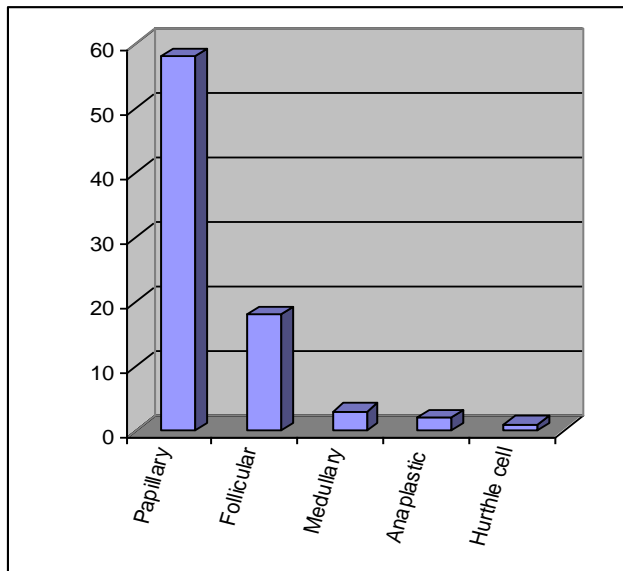


Fig. 3: Photograph of Patient for with enlarged goiter with elective thyroidectomy and Post-thyroidectomy specimen



DISCUSSION

Thyroid disease can present in many ways including fatigue, Wight change and neck lumps to depression, anxiety and hair loss. Large number of malignancy predictors involved that can cause thyroid disease. i.e., Age less than 20 or more than 60, exposure to radiation, previous thyroid surgery, dietary cholesterol, drugs, radioactive iodine and various iodine contacting compounds are the usual compounding factors in the causation of thyroid disease^{18,8,3}. Goitrous enlargement is the most common presentation of the endocrine system, the incidence of both benign and malignant lesion varies from one area to the other^{7,8,9}.

The incidence of tumor of our study is 28.97% where as in USA it was 5.8%, in Libya 9.7% and in South Africa 5.4%^{10,11,12,13}. The prevalence of papillary carcinoma was more frequent than the follicular variant^{14,15,16,17,18,19,20}. Follicular 21.95% and medullary 3.65% in respectively. A broad based study in South Africa published the incidence of papillary carcinoma 66.6%, follicular carcinoma 22% and medullary carcinoma 4%²¹.

In our study thyroid carcinoma is more common in female as published in other studies of the

world^{22,23,24,25}. There are various modalities use to diagnose the problems in the thyroid gland, anti-thyroid anti bodies are done to rule out auto immune thyrioditis. FNAC, ultra sound and isotopes scan are done as initial investigation for the solitary thyroid nodule to differentiate between benign and malignant lesion. FNAC is still believed to be the superior modality with higher yield of sensitivity and specificity than thyroid ultrasound and FNAB cytology is diagnostic test that should not always determine the surgical treatment of the patient pre operatively but early precise diagnosis too. None of the single feature of the ultrasound can differentiate between the benign and malignant nature of the thyroid nodule²⁶.

Nodular goiter is the most common pathology of the thyroid gland. Palpable thyroid nodules are found in 3 to 7% of the adult population and are more frequent in women. Ultrasound can detect focal nodule in 50% of pts clinically having normal gland²⁷.

CONCLUSION

A large population of AJK was having thyroid goiter with female and middle age predominance. The spectrum of thyroid disease as revealed by the reports was predominantly multi nodular goiter, colloid goiter, thyroid cyst leading to other few cases autoimmune thyrioditis, granulomatous thyrioditis. Among thyroid malignancy the papillary carcinoma was the most common lesion in our population as compare to other malignant neoplasm.

Recommendation: Azad Kashmir comprises of 10 districts having mountainous area in large scale. Population residing in and around these mountains drinks water draining from hills which are tremendously deficit in iodine content. This study is based in Muzaffarabad division only which can pose short spectrum of the thyroid illness. There is still a generous need to conduct a large scale prospective study to help plans for early detection, diagnosis and management of the thyroid diseases. The doubt of the diagnosis should not delay the surgical treatment.

Authorship: Raja Ejaz, Mumtaz Ahmad, Javeria Nosheen, Umer Ejaz collected the data, analysed and written the first draft of the manuscript. Raja Ejaz is corresponding author and responsible for the authenticity of the data. Sarosh Majid Salaria, Mulazim Hussain Bukhari reviewed the data and updated the first draft of manuscript.

REFERENCES

1. Parvez M, Malik A M, Anwar A, Solitary Thyroid nodules: incidence of Thyroid cancer. Pak J Pathol 2001, 12 (2):25-9.

2. Elhamel A, Sharid IH, Wassef SA, the pattern of thyroid disease in a cloded community of 1-1/2 million people, Saudi Med. J. 1988; 481-4.

3. Shield JA, Farringer JL, and Thyroid cancer. Am J Surg 1977; 133; 211-5.

4. Kumar V., Abbas A. K. Fausto N., Robbins and Cotran. Pathologic basis of diseases. 1th ed- Philadelphia, W.B. Saunders: 2004: 1178.

5. Memon MH, Memon I, Memon RA. The changing pattern of malignant diseases in Sindh Province. Pakistan Journal of Pathology 1992; 3:17-20.

6. Abu Eshy SA, Al-Shehrimy, Khan AR et al. cause of goiter in Asir region. A histopathology analysis of 361 cases. Ann Saudi Med 1995; 15:74-79.

7. Mofti AB, Al-Momen AA, Suleiman SI, Jain GC, Assaf HM. Experience with thyroid surgery in the Security Forces Hospital. Riyadh. 1991; 12:504-6.

8. Kona S, AL-Mohareb A, the Surgery of goiter in Riyadh Armed forces Hospital. Saudi Med J 1988; 9: 617-21.

9. Muhammad Parvez, Asad Mehmood Malik, Adnan Anwar. Solitary thyroid nodule, incidence of thyroid cancers. Pak J Path. Dec 2001, 12 (2):25-9.

10. Williams ED, Doniach I, Bjarnason O et al. thyroid cancer in iodine rich area histopathological study, Cancer 1977: 39;215-222.

11. Khan A Z., Naqi S A, Kamal A et al. thyroidectomy in carcinoma of thyroid, three years experience. Annals 2004, 10 (4); 368-9.

12. Genesis of thyroid nodules physiological & pathological mechanism, clinical implications. Sacloul- JL- Ann Eedocrinol Paris. 1995; 56 (1) P-5-22.

13. Yasser A Abdul Mughni, Mohammad A, Al- Hureibi et al. thyroid cancer. In Yemen. Saudi Med J 2004, 25 (1): 55-59.

14. Samson ID. Thyroid disease in the Johannesburg Urgan Bantu S. Afri J Surg 1972: 10: 167-70.

15. Ahmed J, Hashmi MA, Naveed IA et al of malignancy in Faisalabad. 1986-1990, Pakistan Journal of Pathology 1995 2:3:103-110.

16. Ahmed M, Ahmad M, Malik Z et al, Surgical audit of solitary thyroid nodules Pak Armed Force Medical Journal 2001, 51 (2): 107-111.

17. Horvath E, Majlis S, Rossi R et al, An Ultrasound reporting system for thyroid nodules stratifying cancer risk for clinical management. J clin Endocrinol Metab 2009. 94:1748-51.

18. Bahn RS, Castro MR. approach to the patient with non toxic multi nodular goiter. J Clin Endocrinol Metab 2011, 96:1202.

19. Lesnik DJ, MA Noordzi J, Randolph GW. Surgical management of being disease of thyroid Med 2013:83 in polish.

20. Memon MH, Memon I, Memon RA. The changing pattern of malignant diseases in Sindh Province. Pakistan Journal of Pathology 1992; 3:17-20.

21. Alagaratnam T. T., Ong G. CA thyroid Br. J. Surg., 1979; 66; 558 -61.

22. Cooper DS, Doherty GM, and Haugen BR et al. revised American thyroid for patients with thyroid nodules and differentiate thyroid cancers.

23. Frates MC, Benson CB, Charbonneau JW, et al. management of thyroid nodules detected at US, ultrasound Q2006, 22:231-38, discussion 239-40.

24. Mazzaferri EL. Management of a solitary thyroid nodule. N Eng J Med 1993, 328 (8): 553-59.

25. N.M. Virk, M. Azeem, M. Abbas, L M. Cheema. The pattern of thyroid disease in non- toxic solitary thyroid nodule. Annals Sep., 2001: 7 (3) 245-6.

26. Kona S, AL-Mohareb A, the Surgery of goiter in Riyadh Armed forces Hospital. Saudi Med J 1988; 9: 617-21