Journal of Thyroid Disorders & Therapy
ISSN: 2167-7948

Gauhar et al., Thyroid Disorders Ther 2014, 3:1
DOI: 10.4172/2167-7948.1000141

Research Article Open Access

Papillary Thyroid Carcinoma

Tooba Mahmud Gauhar*, Abhiseck Chaudary, Hafiz Mohammad Asif Maqbool, Asad Azim, Ameer Afzal, Khalid Masud Alam, Ashfaq Ahmed and Khwaja Mohammad Azim

Mayo Hospital, East Surgical Ward, Lahore, Pakistan

Abstract

Introduction: Papillary thyroid carcinoma is the most common form of thyroid malignancy. Numerous clinicopathologic studies have documented its generally indolent clinical course and excellent overall prognosis. However older patients have more aggressive disease with a worse prognosis.

Material and Methods: A retrospective study was done, including all the patients who had presented to our department East Surgical ward of Mayo hospital, in Lahore during 8 years period from October 2006 to November 2013 with papillary thyroid carcinoma.

Results: There were 30 male and 100 female patients, resulting in a male to female ratio of 1:3.33. The range was from 13 to 83 years, and the mean was 40 years. All the patients presented initially with clinically evident disease in the neck. This was located within the thyroid gland in 72 (67.2%), in the thyroid gland plus cervical nodes in 54 (41.5%), and in the cervical nodes only in 1 (0.76%).

Conclusion: Total thyroidectomy followed by RAI therapy is the treatment of choice for primary and recurrent papillary thyroid carcinoma.

Keywords: Papillary carcinoma; Hypothyroidism; Thyroidectomy; Lymphadenopathy

Introduction

Cancer of the thyroid gland is the most common endocrine malignant tumor and accounts for most endocrine cancer related deaths each year. The annual incidence is about 3.7per 100,000 of the population and the sex ratio is 2 females to 1 male [1,2]. Papillary thyroid carcinoma (PTC) is the most common form of thyroid malignancy. Numerous clinicopathologic studies have documented its generally indolent clinical course and excellent overall prognosis. However older patients have more aggressive disease with a worse prognosis. Papillary thyroid cancer metastasizes usually through lymphatics [3]. Papillary thyroid carcinoma is diagnosed based on cytological characteristics, such as ground glass nuclei, intra nuclear inclusions, or nuclear grooves. Many subtypes of PTC have been described, of which classical PTC is the most common (80%), the follicular variant of PTC (FVPTC) is the second most common subtype, being found in 9% to 22.5% of patients with PTC [4-6]. The treatment of papillary thyroid cancer is dependent on the biologic behavior of the tumor. The role of completion thyroidectomy, central neck dissection, and postoperative radioiodine (RAI) ablation to help prevent recurrent disease is all dependent on the malignant potential of the primary tumor. Prognostic factors as sex and age, tumor size, histologic type, tumor infiltration, vascular or lymphatic invasion, have been shown to affect survival in these patients [7]. Even in patients with metastatic disease, the overall survival in papillary thyroid cancer is higher.

Materials and Methods

This retrospective study engaged every case of Papillary thyroid carcinoma which had been recorded in East Surgical ward of Mayo hospital, in Lahore during around 8 years period from October 2006 to November 2013. The patients included were more than 12 years old.

We surveyed all cases regarding patient's age and gender as well as site of involvement and final histopathological diagnosis according to the patient's medical records. Data were analyzed using SPSS 15 software.

Results

There were 30 male and 100 female patients, resulting in a male to female ratio of 1:3.33. This ratio remained fairly constant throughout the various age groups, except of the fourth decade, in which women greatly predominated with almost no male patients. The range was from 13 to 83 years, and the mean was 40 years. The mean age of female patients was 38.91 years, and that of male patients 43.83 years. All the patients presented initially with clinically evident disease in the neck. This was located within the thyroid gland in 73 (56.15%), in the thyroid gland plus cervical nodes in 53 (40.76%), and in the cervical nodes only in 1 (0.76%). Thus, clinically evident cervical lymphadenopathy at the time of presentation, with or without an accompanying thyroid mass, was noted in 54 patients (41.53%). 3 (2.30%) patients presented with thyroglossal cyst which was found to have papillary thyroid carcinoma. Of this 14 cases presented with the recurrent thyroidal swelling.4 patients had hyperthyroidism and 11 patients had hypothyroidism. We lack the proper histopathology report due to lack of trained histopathologist. As per the data minimum tumor size found was 1 mm and maximum was 14 cm in size. As per microcarcinoma 7 cases were found have tumor size less than 1 cm. 46.24% cases showed breach of capsule and 27.45% of cases showed no breach of capsule, in 26.31% cases capsule involvement was not identified. In 130 cases 61.33% of cases had free margin, 36% cases had margin involved and in 2.66% margin was not identified. 83.75% cases had unifocal involvement and

***Corresponding author:** Tooba Mahmud Gauhar, Senior registrar, East Surgical Ward, Mayo Hospital, Lahore, Pakistan, Tel: 0092-3334369461; E-mail: angel.july17@gmail.com

Received December 02, 2013; **Accepted** January 02, 2014; **Published** January 04, 2014

Citation: Gauhar TM, Chaudary A, Maqbool HMA, Azim A, Afzal A, et al. (2014) Papillary Thyroid Carcinoma. Thyroid Disorders Ther 3: 141. doi:10.4172/2167-7948.1000141

16.25% of case had multifocal involvement, both lobe was involved in 6.90% cases. 36.36% cases had lympho vascular invasion, 39.39% cases had no lympho vascular cases and in 24.24% cases no lymphovascular invasion was identified. 57.57% cases had extra thyroidal involvement and 24.24% cases had no extra thyroidal involvement and in 18.18% cases no extra thyroidal involvement was identified. Cervical lymph node is the commonest site of metastasis in papillary carcinoma and 53(40.76%) cases had lymph node involved of this 44(33.84%) cases had unilateral lymph node involved whereas 9(6.92%) cases had bilateral lymph node involved. maximum number of lymph node isolated was 77 and maximum number of positive lymph node found was 39. There were 7 cases with distant metastasis and organ involved was 1 lung, 1 skull, 1 sternum, 1 illiac crest, 1 femur, 1 vertebra and 1 mandible. Different operation was done according to the carcinoma condition, 29(22.3%) had Total thyroidectomy, 44(33.8%) cases had Total thyroidectomy & unilateral neck dissection, 9(6.9%) cases had Total thyroidectomy & bilateral neck dissection, 40(30.8%) had Lobectomy and is thmusectomy followed by completion thyroidectomy, 3(2.3%) cases had Sistrunk operation followed by total thyroidectomy, 3 (2.3%) cases had subtotal thyroidectomy, 1(0.8%) case had Inoperable mass and 1(0.8%) case had is thmusectomy followed by completion thyroidectomy. The histopathology report was papillary thyroid carcinoma 107(82.3%) cases, papillary thyroid carcinoma with classical and follicular variant 1(0.8%) case, papillary carcinoma with follicular variant 20(15.4%), follicular and papillary thyroid carcinoma 2(1.5%) cases were found, 4 patients required tracheostomy postoperatively due to extensive involvement of trachea by the tumor.

Discussion

Papillary thyroid carcinoma is a major histological type of differentiated carcinoma of the thyroid and most often has an excellent prognosis. Papillary carcinoma of thyroid accounts for 80% of all thyroid malignancies in iodine sufficient areas and is the predominant thyroid cancer in children and individuals exposed to external radiation [8]. Papillary carcinoma occurs more often in women and the mean age of presentation is 30 to 40 years. Most patients are euthyroid and present with slow growing mass in the neck. Lymph node metastasis is common and may be the presenting complaint. Diagnosis is established with FNAC of thyroid mass or lymph node. Once the diagnosis is made USG should be done to find the status of opposite lobe and central and lateral compartment lymphnodes. Distant metastases from Papillary thyroid carcinoma may occur with a frequency ranging from 1.73-8.4% in most studies [9,10]. The most common site of distant metastases from papillary thyroid carcinoma is the lung followed by mediastinal lymph nodes. Less often, distant metastases may appear in bones, central nervous system, liver, pericardium and pleura, kidney, pancreas, skin and muscle, gastrointestinal tract [11]. The treatment of choice for papillary carcinoma of thyroid is total thyroidectomy [12]. As this has the benefit of postoperative RAI therapy which effectively detect and treat residual thyroid tissue or metastatic disease [13], makes serum Tg level a more sensitive marker to detect recurrence and persistent disease, eliminates contra lateral occult cancers as sites of recurrence and improves survival, decreases the 1% risk of progression to undifferentiated or anaplastic thyroid cancer and reduces the risk of reoperative surgery [14,15]. For patients with thyroid cancer >1 cm, the near-total or total thyroidectomy should be done. Thyroid lobectomy alone is sufficient treatment for small (<1 cm), low-risk, unifocal, intra thyroidal papillary carcinomas in the absence of prior head and neck irradiation or radiologically or clinically involved cervical nodal metastases [16]. Just lobectomy is not an appropriate choice of surgery, 85% of tumors are bilateral and 33 to 50% of patients who develop recurrence die from their disease [15]. During thyroidectomy, if central compartment nodes are found enlarged or it's a T3/T4 lesion without nodes, then central compartment node dissection should be accompanied [15,16]. Lateral neck dissection should be done when lateral compartment nodes are enlarged and are preferred over berry picking [16]. Metastatic differentiated thyroid carcinoma can be detected and treated by I^{131}in about 75% of patients [16,17]. T4 is necessary not only as replacement therapy to patients after total thyroidectomy, but also has additional effect of suppressing TSH and reducing the growth stimulus for any possible residual thyroid cancer cells [18].

Conclusion

The age and sex distribution with papillary carcinoma in our setup is very much similar to other parts of the world. Total thyroidectomy followed by RAI therapy is the treatment of choice for primary and recurrent papillary thyroid carcinoma.

References

1. Mazzaferri EL (1981) Papillary and follicular thyroid cancer: a selective approach to diagnosis and treatment. Annu Rev Med 32: 73-91.
2. Sabrina Gill, Sam M Wiseman, Reina Yao, Connie G Chiu, Scott S Strugnell (2011) Gender differences in thyroid cancer: a critical review. 6: 215-243.
3. Carcangiu ML, Zampi G, Pupi A, Castagnoli A, Rosai J (1985) Papillary carcinoma of the thyroid. A clinicopathologic study of 241 cases treated at the University of Florence, Italy. Cancer 55: 805-828.
4. Salter KD, Andersen PE, Cohen JI, Schuff KG, Lester L, et al. (2010) Central node metastases in papillary thyroid carcinoma basedon tumor histologic type and focality. Arch Otolaryngol Head Neck Surg 136: 692-696.
5. Passler C, Prager G, Scheuba C, Niederle BE, Kaserer K, et al. (2003) Follicular variant of papillary thyroid carcinoma: a long-term follow-up. Arch Surg 138: 1362-1366.
6. Tielens ET, Sherman SI, Hruban RH, Ladenson PW (1994) Follicular variant of papillary thyroid carcinoma. A clinicopathologic study. Cancer 73: 424-431.
7. Showalter TN, Siegel BA, Moley JF, Baranski TJ, Grigsby PW (2008) Prognostic factors in patients with well-differentiated thyroid cancer presenting with pulmonary metastasis. Cancer Biother Radiopharm 23: 655-659.
8. Schneider DF, Chen H (2013) New developments in the diagnosis and treatment of thyroid cancer. CA Cancer J Clin.
9. Sugitani I, Fujimoto Y, Yamamoto N (2008) Papillary thyroid carcinoma with distant metastases: survival predictors and the importance of local control. Surgery 143: 35-42.
10. Lang BH, Lo CY, Chan WF, Lam AK, Wan KY (2006) Classical and follicular variant of papillary thyroid carcinoma: a comparative study on clinicopathologic features and long-term outcome. World J Surg 30: 752-758.
11. Chrisoulidou A, Boudina M, Tzemailas A, Doumala E, Iliadou PK, et al. (2011) Histological subtype is the most important determinant of survival in metastatic papillary thyroid cancer. Thyroid Res 4: 12.
12. Shrestha SK, Joshi MR, Sharma SK (2005) Total thyroidectomy: the treatment of choice in differentiated thyroid carcinoma. Kathmandu Univ Med J (KUMJ) 3: 35-38.
13. Sawka AM, Thephamongkhol K, Brouwers M, Thabane L, Browman G, et al. (2004) Clinical review 170: A systematic review and metaanalysis of the effectiveness of radioactive iodine remnant ablation for well-differentiated thyroid cancer. J Clin Endocrinol Metab 89: 3668-3676.
14. Jones MK (2002) Management of papillary and follicular thyroid cancer. J R Soc Med 95: 325-326.
15. Guerrero MA, Clark OH (2011) Controversies in the management of papillary thyroid cancer revisited. ISRN Oncol 2011: 303128.
16. American Thyroid Association (ATA) (2009) Guidelines Taskforce on Thyroid Nodules and Differentiated Thyroid Cancer. In: Cooper DS, Doherty GM, Haugen BR, Kloos RT (Eds.), Revised American Thyroid Association management guidelines for patients with thyroid nodules and differentiated thyroid cancer. Thyroid 19: 1167-1214.

17. Sakorafas GH, Sampanis D, Safioleas M (2010) Cervical lymph node dissection in papillary thyroid cancer: current trends, persisting controversies, and unclarified uncertainties. Surg Oncol 19: e57-70.

18. Pinchot SN, Sippel RS, Chen H (2008) Multi-targeted approach in the treatment of thyroid cancer. Ther Clin Risk Manag 4: 935-947.