ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 07 | July - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

GIANT PAPILLARY CARCINOMA THYROID- A RARE ENTITY

ENT

Dr Mohamed Riyas Ali* MS, DNB, Senior Resident, Department of ENT and Head &Neck Surgery, Lok Nayak Hospital and associated Maulana Azad medical college & G.B Pant Hospital New Delhi - 110002, India.*Corresponding Author

Dr Arif K N MS, DNB, Senior resident, Department of ENT and Head &Neck Surgery, Lok Nayak Hospital and associated Maulana Azad medical college & G.B Pant Hospital New Delhi - 110002, India.

Dr P K Rathore MS Director Professor and Head, Department of ENT and Head &Neck Surgery, Lok Nayak Hospital and associated Maulana Azad medical college & G.B Pant Hospital New Delhi -110002, India.

Dr Vikram Wadhwa MS Consultant surgeon, Department of ENT and Head &Neck Surgery, Lok Nayak Hospital and associated Maulana Azad medical college & G.B Pant Hospital, New Delhi - 110002, India.

Dr Chaithra T MS Post Graduate, Department of ENT and Head &Neck Surgery, Lok Nayak Hospital and associated Maulana Azad medical college & G.B Pant Hospital, New Delhi -110002, India.

ABSTRACT

Background-Papillary thyroid cancer (PTC) is the most common malignancy affecting the thyroid gland; many variants of PTC have been described. FVPTC is diagnosed on histopathology which shows a follicular architectural pattern with the typical nuclear features of the classical PTC (CPTC).

Case presentation-We report a case of 50 year old female patient case of giant follicular variant papillary thyroid carcinoma(FVPTC) with nodal & loco regional spread, who underwent total thyroidectomy with selective neck dissection followed by radioiodine therapy. Dimensions of the specimen were 17x 11x 8 cm and it weighed 1380 grams. Patient is on regular follow-up with no signs of any recurrent disease.

Conclusion- FVPTC's clinical behavior represents an intermediate entity with clinical features that are between classical papillary thyroid carcinoma and follicular thyroid carcinoma. Rarely, in some neglected cases FVPTC can attain enormous size, like in our patient's case the tumor weighed 1380 gms. Although these tumors vary in clinical behavior, long term outcomes are excellent and similar to classical papillary thyroid carcinoma.

KEYWORDS

case report, follicular variant papillary thyroid carcinoma, thyroid tumor, giant thyroid tumor, neck swelling

BACKGROUND-

Papillary thyroid cancer (PTC) is the most common malignancy affecting the thyroid gland; accounting for approximately 80% of all thyroid cancers. PTC typically occurs in middle aged with a peak incidence in 3rd & 4th decade with a female preponderance. Many variants of PTC have been described. Follicular variant of PTC (FVPTC) first described by Crile & Hazard in 1953 is the second most common form constituting between 9-22% of all PTC cases (1). FVPTC is diagnosed on histopathology which shows a follicular architectural pattern with the typical nuclear features of the classical PTC (CPTC) which include enlarged, overlapping or ovular nuclei, nuclear clearings described as Orphan Annie eyes, nuclear grooves and pink cytoplasmic invaginations. Its clinical behavior represents an intermediate entity with features that are between CPTC and follicular thyroid carcinoma (FTC). Although these tumors vary in clinical behavior, long term outcomes are excellent and similar to CPTC. PTC is usually a slow growing neoplasm with early nodal metastasis. Early diagnosis & treatment reduces chances of distant metastasis. Even though thyroid swellings get noticed easily & usually present in initial stages, at times, neglected cases can assume enormous dimensions. We present a case report of giant FVPTC with nodal & loco regional spread, who underwent total thyroidectomy with selective neck dissection followed by radioiodine therapy.

CASE PRESENTATION-

A 50 year old female patient was referred to our tertiary care center with a huge anterior neck swelling of 4 year duration with recent onset of breathing difficulty. She did not have any complaints of change in voice, difficulty in swallowing or any symptom suggestive of hypo/hyperthyroidism or distant metastasis. There was no history of any significant radiation exposure or any contributary family history. General condition of the patient was stable and there were no eye signs present. Examination of neck revealed a large 17 x 14 cm swelling over anterior aspect of neck with superior extension up to the level of hyoid, inferiorly 2 finger widths below suprasternal notch over anterior chest wall. Laterally it was extending upto the posterior border of sternocleidomastoid on left side and upto anterior border of trapezius on right side (fig 1). Tumour had bosselated surface with stretched skin along with dilated veins and variegated consistency on palpation. Pemberton's sign was positive. Left level III cervical lymph node was found to be enlarged (3x3 cm). Indirect laryngoscopy was normal. Thyroid function test was within normal limits. Ultrasonogram of thyroid showed enlargement of both lobes with hypoechoic solid mass with irregular shape and cluster distribution of dot like calcification – falling to TIRADS 5 category. Contrast enhanced computed tomography scan of neck & chest showed a large heterogenous enhancing lesion of size 15x12x6 cm involving both lobes of thyroid gland with areas of necrosis and coarse calcifications (fig 2).

There was minimal retrosternal extension and mild tracheal compression. Left level III lymph node was enlarged with areas of central necrosis. Fine needle aspiration cytology showed high cellularity with clusters of follicular cells in focally prominent follicular pattern, suggestive of FVPTC.

After obtaining informed consent and preanaesthetic clearance, patient was taken up for surgery under general anesthesia. Total thyroidectomy with neck dissection (left ll, lll, lV, V & Vl) was done (fig 3).

On left side the tumor was found adhered to recurrent laryngeal nerve which was shaved off from the nerve sheath. Laryngotracheal framework, esophagus and great vessels were not involved. Dimensions of the specimen were 17x 11x 8 cm and it weighed 1380 grams (fig 4). During the immediate postoperative period patient had left vocal cord paresis which recovered on conservative management. On histopathology, it was reported as follicular variant of papillary thyroid carcinoma with lymphovascular and capsular invasion. Level

II & III lymph nodes showed tumour deposits. Case was reviewed in tumor board and patient was adviced I^{131} scan followed by RAI. Now the patient is on regular follow-up with no signs of any recurrent disease.

IMAGES

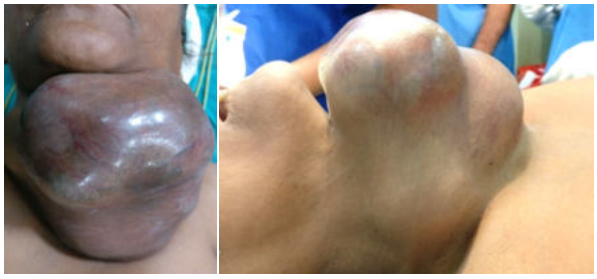

Figure 1- clinical picture of thyroid swelling

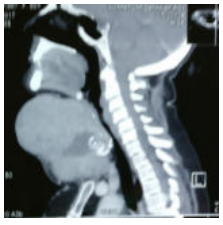

Figure 2- Thyroid gland with areas of necrosis and coarse calcifications

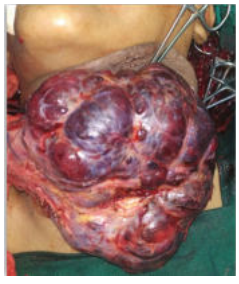

Figure 3- intraoperative image

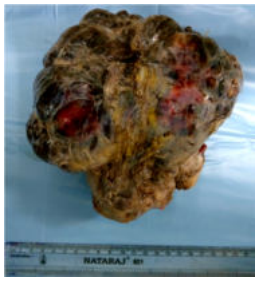

Figure 4- postoperative specimen as described

DISCUSSION

Papillary carcinoma and follicular carcinoma are the differentiated cancers of thyroid gland. Several variants of PTC have been described based on characteristic histological features. Common variants include follicular, classical and tall cell variant. Oncocytic, columnar cell, diffuse sclerosing & solid forms are some of the described uncommon variants.

In FVPTC, cells show follicular architecture, but their nuclear features show some of the typical features of PTC including ground glass appearance, nuclear pseudoinclusions, microfilaments and grooves.

FVPTC represents an intermediate entity with clinical features that are between C-PTC and FTC with respect to tumour size, extrathyroidal spread, lymph node and distant metastasis. The mean tumor size of FVPTC was slightly larger than that of C-PTC, but smaller than FTC. Extension into the extrathyroidal tissues and the involvement of lymph-nodes are more frequently found in FV-PTC than in FTC. Both these features which are important prognostic indicators are less common in FVPTC compared to C-PTC. Distant metastasis was less common in FVPTC than in FTC, but more than CPTC (2).

Rarely, in some neglected cases FVPTC can attain enormous size, like in our patient the tumor attained a size of 17x 14 cm over 4 years. To the best of our knowledge, this is the largest case of FVPTC ever reported in literature. In a large study conducted by Xiao-Min Yu et al 10740 cases of FVPTC were reviewed from Surveillance, Epidemiology & End Result (SEER) Cancer Data base. Mean size of the tumour was 3.7 cm and the largest size was 5.9 cm (2).

Liu *et al*.classified FVPTC into two major classes: infiltrative (invasive) and encapsulated, which has a significant bearing on the outcome of disease profile (3). The infiltrative variant of FVPTC are more likely to have extrathyroidal extension and lymph node metastases. In our case also patient had these features of infiltrative variant. The encapsulated FVPTC clinically behaved more like follicular tumors.

There is lack of consensus on surgical management of FVPTC. Various studies recommend that for the encapsulated, noninvasive FVPTC, a lobectomy is enough and could decrease the chance of recurrence (4, 5, 6). In contrary, some authors advocates that the patients with FVPTC and PTC should receive the same treatment strategy (7,8). The American Thyroid Association (ATA) Management Guidelines recommends a total thyroidectomy if tumor measures > 4 cm, for low-risk carcinomas > 1 cm and < 4 cm, the treatment preferred is thyroid lobectomy, and tumors < 1 cm, lobectomy alone is preferred (9). In our case, owing to the large size of the tumour, we proceeded with total thyroidectomy with neck dissection.

According to ATA guidelines, definite candidates for radioiodine therapy includes tumors with gross extrathyroidal invasion (T4), pN1 with extranodal extension and ≥ 3 Lymph Node involved or any Lymph Node > 3 cm or patients with distant metastases. Our patient also received radioiodine therapy as per standard protocol and is on regular follow-up with no evidence of any recurrence.

Large thyroid swellings especially when malignant, it distorts the normal anatomy with displacement of structures making identification of recurrent laryngeal nerve difficult. When operating on these large thyroid tumors, there is increased risk of intraoperative bleeding leading to need for blood transfusion, increased risk of recurrent laryngeal palsy and overall morbidity.

CONCLUSION

FVPTC's clinical behavior represents an intermediate entity with clinical features that are between classical papillary thyroid carcinoma and follicular thyroid carcinoma. Rarely, in some neglected cases FVPTC can attain enormous size, like in our patient's case the tumor weighed 1380 gms. In these large tumors, at-most care should be taken as there is increased chances of complication and overall increased morbidity. Although these tumors vary in clinical behavior, long term outcomes are excellent and similar to classical papillary thyroid carcinoma.

Abbreviations-

PTC- papillary thyroid carcinoma
CPTC- classic papillary thyroid carcinoma
FVPTC- follicular variant papillary thyroid carcinoma
RAI- Radio Active Iodine
TIRADS- thyroid imaging reporting and data system
ATA- American thyroid association

REFERENCES

1. Crile Jr G, Hazard JB. Relationship of the age of the patient to the natural history and prognosis of carcinoma of the thyroid. Annals of surgery. 1953 Jul;138(1):33.
2. Yu XM, Schneider DF, Leverson G, Chen H, Sippel RS. Follicular variant of papillary thyroid carcinoma is a unique clinical entity: a population-based study of 10,740 cases. Thyroid. 2013 Oct 1;23(10):1263-8.
3. Liu J, Singh B, Tallini G, Carlson DL, Katabi N, Shaha A, Tuttle RM, Ghossein RA. Follicular variant of papillary thyroid carcinoma: a clinicopathologic study of a problematic entity. Cancer. 2006 Sep 15;107(6):1255-64.
4. Lang BH. Lo CY Chan WF Lam KY & Wan KY 2006 Classical and follicular variant of papillary thyroid carcinoma: a comparative study on clinicopathological features and long-term outcome. World Journal of Surgery.;30:752-28.
5. Papillary Thyroid Carcinoma . Thyroid Cytopathology. New York, NY: Springer New York; 2005. pp. 120–46.
6. Tarasova VD, Tuttle RM. Current management of low risk differentiated thyroid cancer and papillary microcarcinoma. Clinical Oncology. 2017 May 1;29(5):290-7.
7. Zidan J, Karen D, Stein M, Rosenblatt E, Basher W, Kuten A. Pure versus follicular variant of papillary thyroid carcinoma: clinical features, prognostic factors, treatment, and survival. Cancer: Interdisciplinary International Journal of the American Cancer Society. 2003 Mar 1;97(5):1181-5.

8. Passler C, Prager G, Scheuba C, Niederle BE, Kaserer K, Zettinig G, Niederle B. Follicular variant of papillary thyroid carcinoma: a long-term follow-up. Archives of surgery. 2003 Dec 1;138(12):1362-6.
9. Haugen BR, Alexander EK, Bible KC, Doherty GM, Mandel SJ, Nikiforov YE, Pacini F, Randolph GW, Sawka AM, Schlumberger M, Schuff KG. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: The American Thyroid Association guidelines task force on thyroid nodules and differentiated thyroid cancer. Thyroid. 2016 Jan 1;26(1):1-33.