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CASE REPORT

A CASE REPORT ON PAPILLARY CARCINOMA THYROID WITH INTRAORBITAL AND INTRACRANIAL METASTASIS

Dr. Kothakapu Sai Spoorthi Reddy[1]., Dr Devika Badimi[2]., Dr. SubhashReddy Doni[3]., Dr.G.Ramakrishna Reddy[4] and Dr.K. Venkat Ram Reddy[5]

[1,2]Resident, [3]Associate professor, [4] Professor and HOD of Dept of Radiodiagnosis and [5]Professor
Sri Venkata Sai Medical College, Mahabubnagar, Telangana, India

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ABSTRACT

Papillary thyroid cancer (PTC) is the most prevalent form of differentiated thyroid cancer (DTC), typically confined to the neck and often leading to remission. Although distant metastases in DTC are uncommon, they usually involve the lungs and bones, with the liver and kidneys being less frequently affected. Metastasis to intra-orbital and intracranial sites is exceedingly rare. We hereby present a case of 68-year-old woman who presented with proptosis of right eye and swelling in right side of neck since 15 years. Fine needle aspiration cytology of both the thyroid swelling and orbital mass was done, which revealed papillary carcinoma thyroid and metastatic orbital deposits.

INTRODUCTION

Papillary thyroid carcinoma (PTC) is the most common neoplasm of thyroid which usually has an indolent clinical course. Distant metastases, although rare occur in less than 10% of the low-risk and in upto 33% of the high-risk cases, adversely affecting the prognosis. Distant metastases of thyroid carcinomas have predominantly been to the lungs and to a lesser extent to the bone, brain and soft tissues. Metastatic deposition in the orbit is an uncommon manifestation of malignant thyroid disease. We report a rare case of a follicular variant of papillary thyroid carcinoma (FVPTC) that presented with intra orbital metastasis with intracranial extension.

CASE REPORT

A 68-year-old woman presented with complaints of proptosis of right eye with complete loss of vision and swelling on right side of neck since 15 years. There was a progressively enlarging mass in right peri and retroorbital area resulting in proptosis.

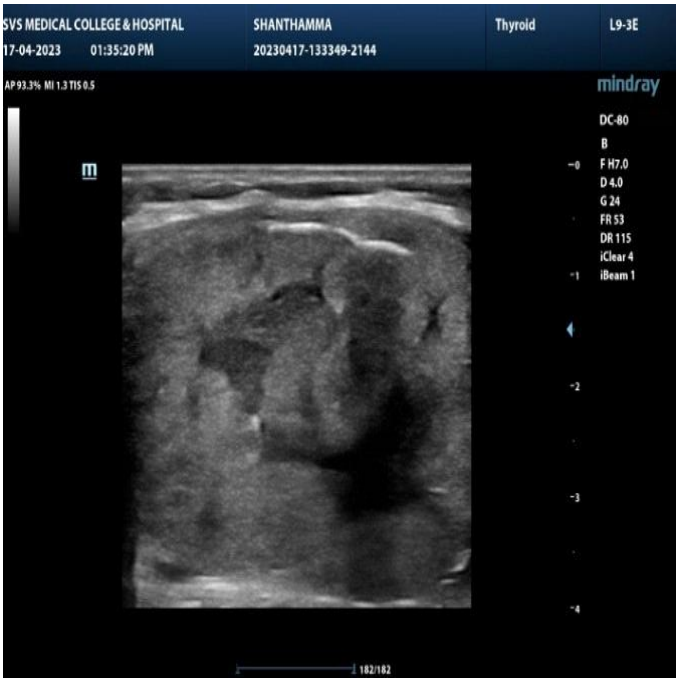
Imaging Findings

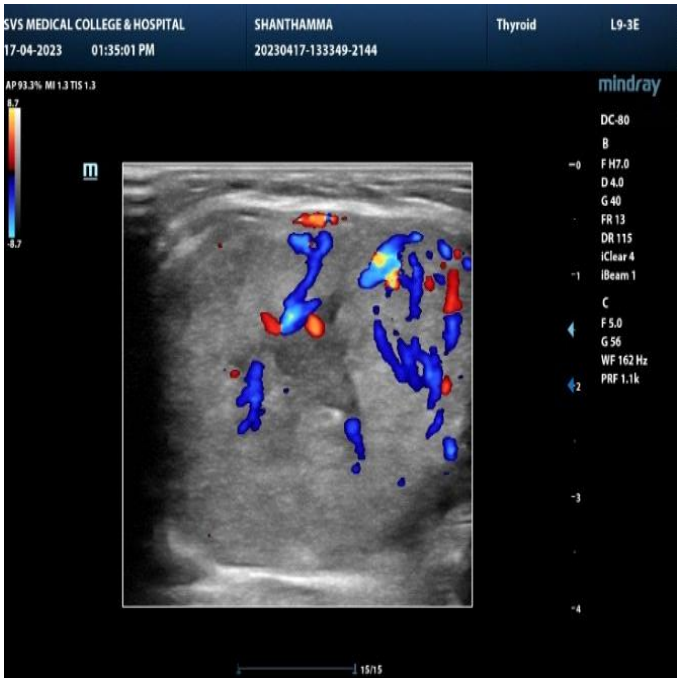
Ultrasonography: A solitary, lobulated heterogeneously iso to hypoechoic lesion with central irregular hypoechoic area noted occupying almost entire right lobe of thyroid gland, measuring approximately 5.6 x 3.6 cm. There are few punctate echogenic foci scattered within the lesion, with peripheral incomplete rim of calcifications. On colour doppler, the lesion shows moderate internal vascularity with resistive index (RI) of 0.85. No evidence of extrathyroidal extension.

The periorbital lesion was heterogeneously hyperechoic on ultrasound with moderate internal vascularity.

Provisional diagnosis of Malignant neoplasm of thyroid with orbital metastatic deposits was made and the patient was suggested to undergo Fine needle aspiration cytology of the lesions and CT for further evaluation of orbital lesion.

Corresponding author:* **Dr. Devika Badimi
Department of Radiodiagnosis, SVS Medical College and Hospital, Mahbubnagar, Telangana, India



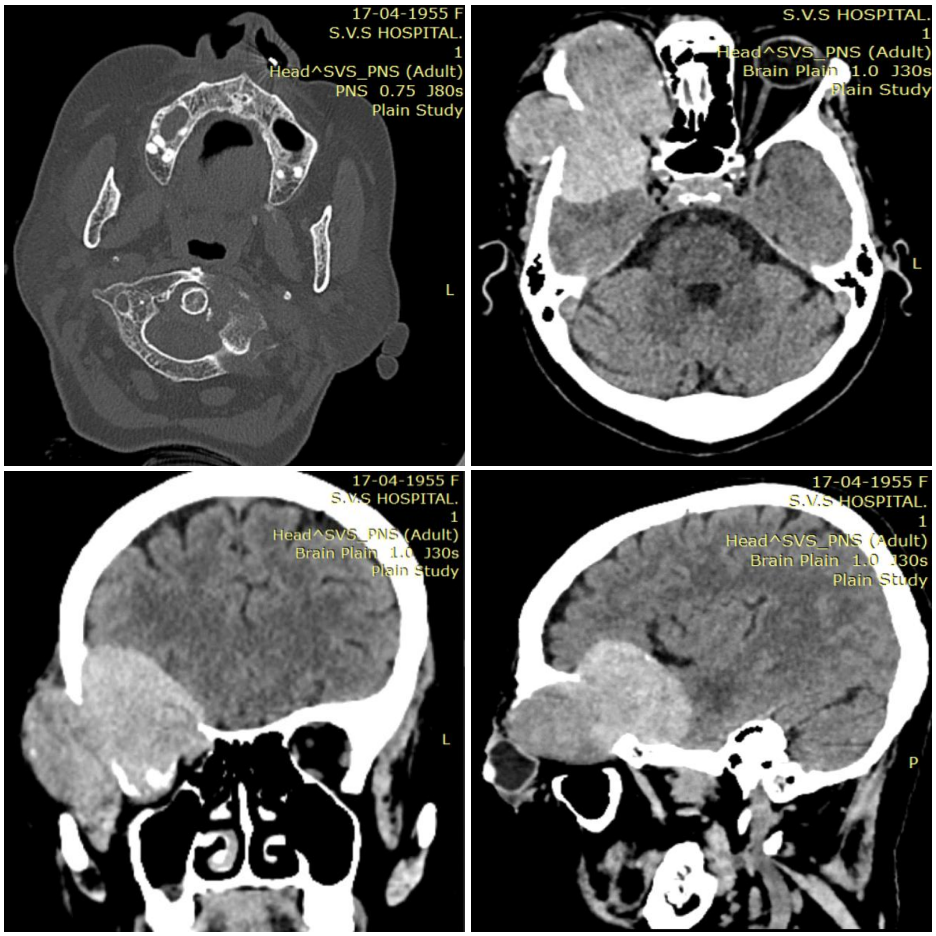


Computed Tomography: NECT brain was performed- which showed –A large extra-axial homogenously hyperdense(50-55HU) soft tissue lesion involving right orbit and middle cranial fossa with its epicentre at greater wing of sphenoid measuring approximately 7 x 5.6 x 5 cm in AP, TR & CC dimensions with multiple hyperdense bony fragments. There is lytic destruction of right greater wing of sphenoid, lateral wall of orbit, posterior aspect of roof of orbit, part of lesser wing of sphenoid and part of right frontal bone.

The lesion is causing significant mass effect on adjacent structures in the form of displacement of globe, optic nerve and ocular muscles anteromedially & displacing the right frontal and temporal lobes superiorly without any obvious infiltration of brain parenchyma.

Similar lytic lesion noted in left paramedian aspect of arch of atlas.

Patient was not willing for CECT or MRI.

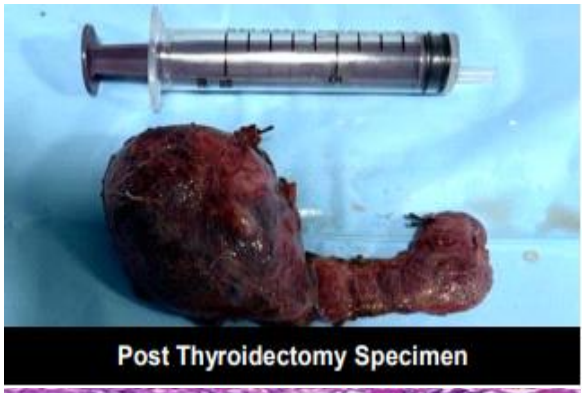


Patient was diagnosed as Thyroid papillary carcinoma Stage IV b (T3a N0 M1) according to AJCC classification. Total thyroidectomy was performed and the specimen sent for biopsy.

Histopathology Findings

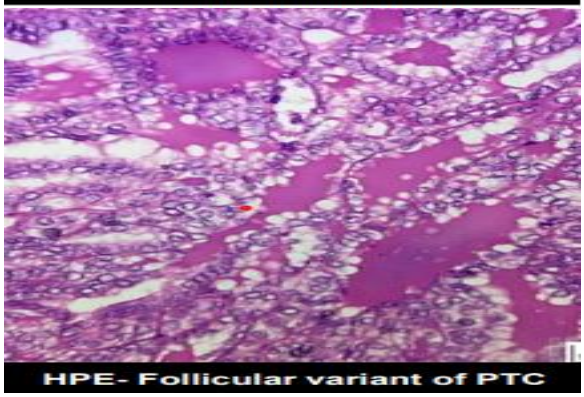
Fine needle aspiration cytology of both the thyroid swelling and orbital mass was done, which revealed papillary carcinoma thyroid and metastatic orbital deposits. Biopsy specimen post total thyroidectomy showed Encapsulated Follicular variant of papillary carcinoma thyroid with definite capsular breach.

Exposed Thyroid Mass - Intraoperatively



Post Thyroidectomy Specimen

Gross Specimen



HPE- Follicular variant of PTC

HPE showing capsular invasion

Patient was then advised for adjuvant radioactive Iodine ablation (I- 131) and radiotherapy

DISCUSSION

The most common malignancy involving orbit is secondary deposit mainly from Breast (42%). Lung (11%), Prostate (8%) and Malignant Melanoma (5%)1 are other sites. Orbital metastasis from thyroid malignancy accounts to about 3- 6%.
The occurrence of orbital metastasis from PTC is exceptionally rare. PTC typically remains confined to the thyroid gland or regional lymph nodes, and distant metastasis are infrequent. However, when metastasis to the orbit does occur, it presents significant challenges to the complex anatomy of the orbital region and the potential for adverse effects on vision and ocular function.

Diagnosing PTC with orbital metastases often involves a combination of imaging studies, such as CT scans or MRI, to assess the extent of the disease in the thyroid and orbit. Biopsy of the orbital lesion may be necessary to confirm the diagnosis and differentiate it from primary orbital tumors or other metastatic lesions.

Treatment options for PTC with orbital metastases may include a combination of surgery, radiation therapy, and systemic therapies such as targeted therapy or chemotherapy. The goal of treatment is to control the spread of the disease, alleviate symptoms, and preserve vision and eye function as much as possible.

Additionally, the presence of orbital metastases may indicate a more aggressive form of PTC with a higher risk of recurrence or progression. Thus, close monitoring and long-term follow-up are essential to detect any changes in the disease status and adjust treatment accordingly.

CONCLUSION

Papillary thyroid carcinoma (PTC) typically carries a positive prognosis, even in cases with metastasis to locoregional lymph nodes. However, there are instances where metastasis can extend to distant areas such as the lungs, liver, or bones, leading to a more severe prognosis. Orbital metastatic lesions are relatively uncommon and usually originate from primary tumours in the breast or lung. However, metastasis from the thyroid to the orbit is exceptionally rare. In these cases, distant metastasis may occasionally present as the initial clinical indication of the disease.

References

Bin Hareez, N., Jay, M., & Lochnan, H. (2021). Papillary thyroid cancer with unusual late onset pituitary and orbital choroidal metastases. Case report and literature review. Journal of Clinical and Translational Endocrinology: Case Reports, 20, 100081.

Besic N, Luznik Z. Choroidal and orbital metastases from thyroid cancer. Thyroid. 2013 May 1;23(5):543-51.

Repanos, Costa & Ho, Yiu Ming & Bird, Kellie & Coman, Scott & Coman, William & Wallwork, Ben. (2011). Metastatic papillary thyroid carcinoma involving orbit: A case report and review. ANZ journal of surgery. 81. 375-6. 10.1111/j.1445-2197.2011.05697.x.

Anoop TM, Mini PN, Divya KP, Nikhil S, Jabbar PK. Thyroid follicular carcinoma presenting as intraorbital, intracranial, and subcutaneous metastasis. Am J Surg 2010;199:e72-e74

Francisco Dario Rocha Filho, Gabrielle Gurgel Lima, Francisco V. De Almeida Ferrrira, Michelle Gurgel Lima, Miguel N. Hissa. Orbital Metastasis as Primary Clinical Manifestation of Thyroid Carcinoma: Case Report and Literature Review. Arq Bras Endocrinol Metab 2008;52/9.

Rocha Filho FDR, Lima GG, Ferreira F, Lima MG, Hissa MN. Orbital metastasis as primary clinical manifestation of thyroid carcinoma – case report and literature review. Arq. Bras. Endocrinol. Metabol. 2008; 52:1497–500.

Yousuf K, Archibald SD. Brain metastases from papillary adenocarcinoma of the thyroid. J. Otolaryngol. 2006; 35: 366–72.

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