



ORIGINAL RESEARCH PAPER

Histopathology

PAPILLARY ADENOCARCINOMA IN BRAIN: A DIAGNOSTIC DILEMMA

KEY WORDS:

Dr. Pooja Singh	Junior Resident, Department Of Pathology, IMCHRC, Indore.
Dr. Sanjeev Narang	Department Of Pathology, IMCHRC, Indore.
Dr. Anjali Singh	Department Of Pathology, IMCHRC, Indore.
Dr. Romi Srivastava	Department Of Pathology, IMCHRC, Indore.
Dr. V. K. Jain	Department Of Pathology, IMCHRC, Indore.
Dr. Albeena Ali.	Department Of Pathology, IMCHRC, Indore.

BACKGROUND

Papillary thyroid carcinoma (PTC) is the most common thyroid carcinoma, representing ~80% of the newly diagnosed thyroid carcinomas. **PTC brain metastases are exceedingly rare, occurring in 0.1–5% of cases.**

RISK FACTORS - Age over 45 , Gender: **Men** are more prone to Papillary Adenocarcinoma than women , **Family history, Radiation exposure , Genetic mutations COMPLAINS -** Patient presents with persistent **hoarseness or changes in voice quality, Swollen lymph nodes , Difficulty swallowing** or a feeling of a lump in the throat , **Chronic cough or breathing difficulties , Unexplained weight loss, fatigue, or weakness.**

Diagnosis of Papillary Adenocarcinoma involves CT scans or MRI scans, Biopsy of the affected tissue is crucial for confirming Papillary Adenocarcinoma. **.Surgery is often the mainstay of treatment ,along with as chemotherapy, radiation therapy, targeted therapy, or immunotherapy**

may be considered..

CASEREPORT

AIM- TO STUDY METASASTASIS OF PAPILLARY ADENOCARCINOMA IN BRAIN

MATERIAL AND METHOD-

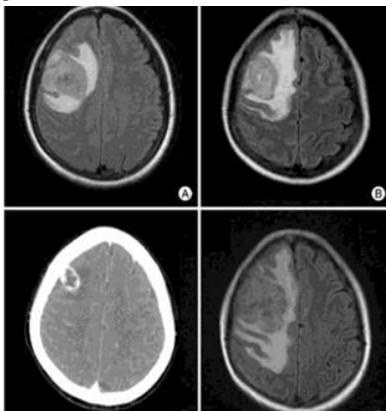
A retrospective database was generated from the patient medical records of our institution that is **Index medical college and hospital research center (IMCHRC)** for the years between 2017-2024. The patients were histologically diagnosed with PTC and presented with a brain metastasis.

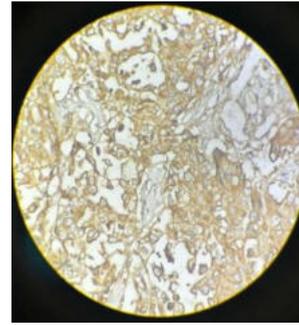
- Out of the 6 patients that met our inclusion criteria 4 patients were men and 2 patients were women. The average age was 59 years . The pathology of the primary thyroid disease was available for the 6 patients.
- The average lesion size was 53 mm in diameter (range, 20–110 mm).
- Multiple brain lesions were observed in 3 of the 6 patients.

No	Age (years)	Gender	Brain metastasis +/-	No of brain metastasis	Removal of brain metastasis	Outcome	Survival from brain metastasis (months)	Prognosis	Lung metastasis	Bone metastasis
1	54	M	+	Multiple	Present	Dead	36 months	Poor	+	-
2	60	F	+	Multiple	Present	Dead	20 months	Poor	-	-
3	55	F	-	-	-	Not dead	-	Poor	+	-
4	61	M	-	-	-	Not dead	-	Poor	-	+
5	52	M	+	Multiple	Present	Dead	28 months	Poor	-	-
6	64	M	-	-	-	Not dead	-	Poor	+	+

Radiological Findings

- USG thyroid suggestive of TIRADS III (Primary suspicious nodule/ Operated Malignancy of brain)
- CT Brain suggestive of ?Parasagittal tumour ? Meningioma





IHC-EMA(Epithelial Membrane Antigen)

EMA is a reliable marker for identifying epithelial origin in papillary adenocarcinoma.

DISCUSSION

- In the present study, the 6 patients who underwent surgery had poor prognosis.
- This result suggested that these therapeutic options did not improve the survival of patients with PTC brain metastases due to systemic advanced disease, but provided good local control of the metastatic brain tumor.
- It is generally accepted that patients with metastases from a primary well-differentiated thyroid carcinoma have a favorable prognosis. However, PTC brain metastases should be considered a terminal clinical symptom in PTC and most patients with brain metastases also succumbed to the disease
- In this retrospective study, the patients diagnosed with PTC brain metastases had an average overall survival of 15 months. This survival time is shorter compared with the average overall survival of patients with brain metastases from other thyroid cancers.
- Although most brain metastases were locally controlled, it is hypothesized that other advanced organ metastases or systemic diseases may have caused the death of PTC patients with controlled brain metastases.

CONCLUSION

- Therefore, it is important to identify the general condition of the patient and consider the expected prognosis prior to the planning of therapeutic schedules.
- Once brain metastases are diagnosed, palliation with preservation of quality of life becomes the goal of therapy.
- The possibility of metastasis of PTC should be included as a differential diagnosis if an unusual mass manifests in any location in patients with PTC.
- The brain is an uncommon site for metastases of differentiated thyroid carcinoma with the most common location being cerebral hemispheres, followed by cerebellum and pituitary gland

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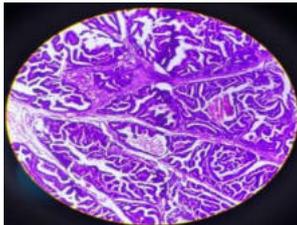
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GROSS HISTOPATHOLOGY SPECIMENS

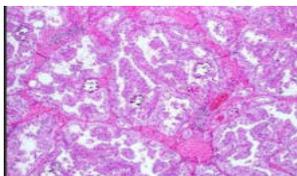
Received multiple soft tissue pieces. Grayish white in colour, soft to firm in consistency. On cut, white homogeneous area noted.



40X



10X histology image showing papillary configuration lined by monomorphic round to oval cells and moderate nuclear pleomorphism, prominent fibrovascular core and capillaries are identified. This tumor is also infiltrating surrounding brain tissue.



Psammoma Bodies