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A RARE CASE OF PRIMARY NEURO ENDOCRINE TUMOR OF THE MEDIASTINUM WITH CYSTIC BRAIN METASTASES

General Medicine

Dr. Samparna Bohidar* — 3rd year PG resident, Dept of General Medicine. *Corresponding Author

Dr Guna Jefferson E — 3rd year PG Resident Of Pulmonary Medicine, Dept of General Medicine, Dr D.Y Patil Medical College , Navi Mumbai.

Dr Mahesh Padsalge — Associate Prof, Dept Of General Medicine, Dept of General Medicine, Dr D.Y Patil Medical College , Navi Mumbai.

Dr Nivedita Maullick — HOD Dept Of General Medicine, Dept of General Medicine, Dr D.Y Patil Medical College , Navi Mumbai.

KEYWORDS

BACKGROUND:
Neuroendocrine tumours (NETs) are epithelial neoplasms with neuroendocrine differentiation that can occur in any organ of the body. Following the GI tract, the lung is the second most prevalent location for NETs. PMNET (primary mediastinal neuroendocrine tumour) is a clinical condition that is highly uncommon.

Cystic brain metastases are uncommon.

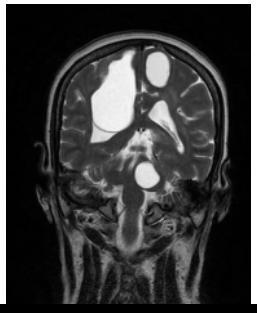
Cystic brain mets are most prevalent in lung cancer, although they can also develop in breast, pancreatic, kidney, and even melanomas.

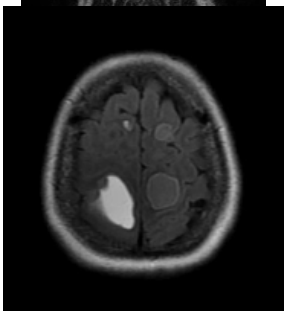
Cystic brain mets might be mistaken for brain abscesses, primary cerebral tumours, or parasite diseases.

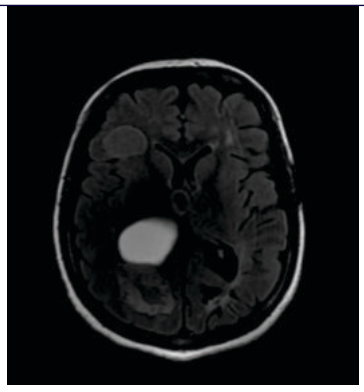
We describe a case of Primary Neuroendocrine Mediastinum Tumor with Cystic Brain Metastases.

CASE :
A 50-year-old woman arrived with a two-month history of dizziness, nausea, and vomiting, as well as one seizure episode. There were no complaints about the patient's respiratory system.

- The patient's CNS, Ophthalmology, and Respiratory examinations were unremarkable.
- An MRI of the brain revealed several cystic lesions with peripheral enhancement across the cerebral, b/l cerebellar hemispheres, right thalamus, and brainstem, with the biggest measuring 4 x 3.1 cm in the right fronto-parietal area.



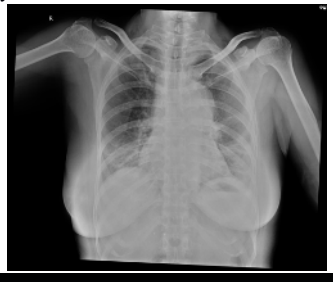


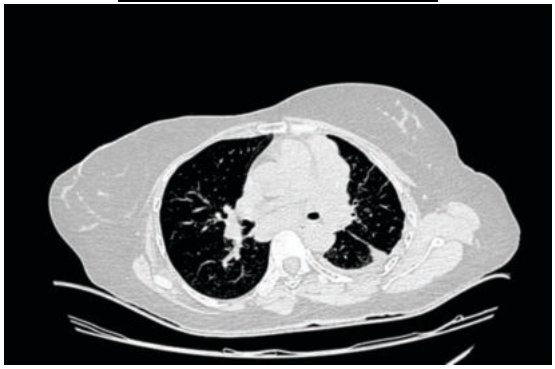


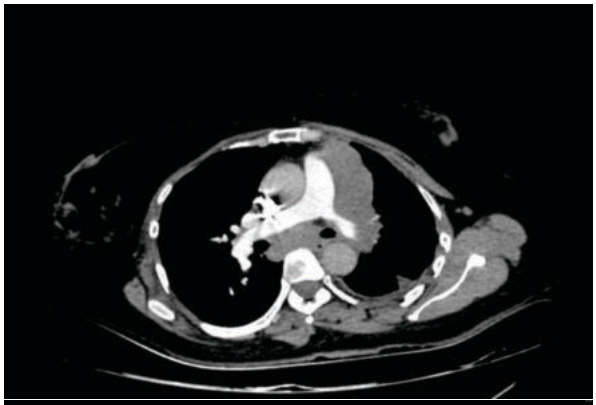
A routine chest x-ray revealed left mediastinal enlargement with the appearance of a mass.

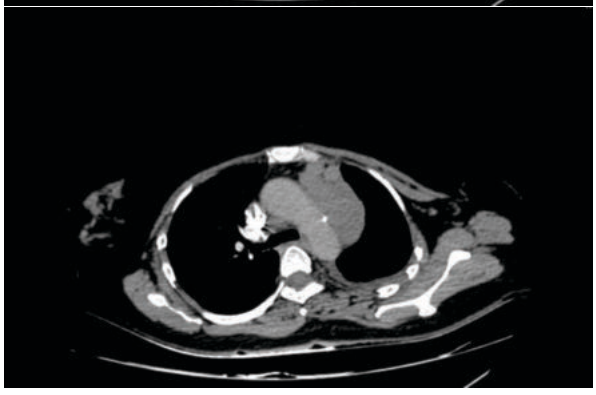
HRCT thorax revealed a 7.8 x 3.2 cm heterogeneously enhancing lobulated soft tissue mass extending from the left hilar area into the prevascular region along the mediastinal pleura.

This tumour encases the left pulmonary artery with luminal constriction and the left major bronchus without compromising luminal integrity.









- Bronchoscopy done showed narrowing of left upper lobe, lingula due to extraluminal compression by mediastinal mass. No endobronchial lesions noted. TBNA was done and cytology showed atypical epithelial cells
- Hence CT guided biopsy of the mediastinal mass was done. Histopath showed Infiltrating tumor with solid and focal complex glandular pattern amidst hyalinised stroma. On Immunohisto chemistry, the tumor cells are strongly and diffusely positive for synaptophysin, chromogranin while negative for P40, TTF1, PAX8 and SALL4. Mib-1 labelling index is 4-5% in the highest proliferating areas. Diagnosis of Neuroendocrine tumor, grade 2 was made

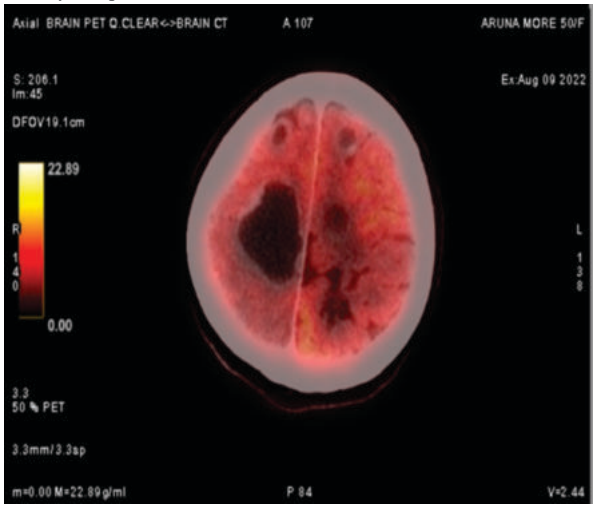
PET-CT :

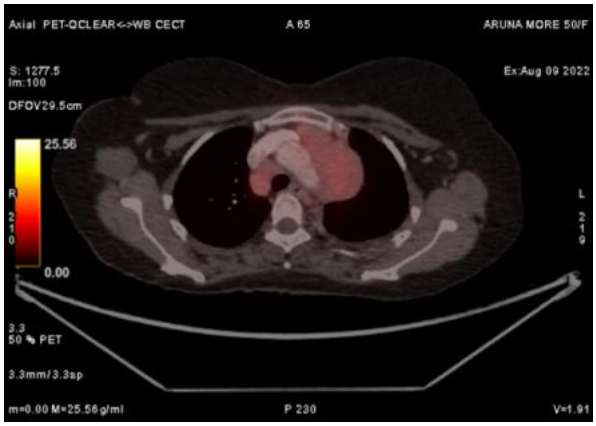
Increased metabolic activity noted in the mediastinal mass - primary neoplastic pathology

Increased metabolic activity in mediastinal nodes - metastatic.

Multiple cystic lesions in brain show no significant metabolic activity - suspicious for metastasis

Ground glass nodule in the left upper lobe with increased metabolic activity - suspicious for metastasis





Treatment:

Oncologist opinion was obtained and was advised radiotherapy as surgery was not feasible

DISCUSSION:

- NETs of the mediastinum are very rare.
- They may originate from neuroendocrine elements within the thymus, from aorticopulmonary and paravertebral paragangliomas, from misplaced embryonal structures within the mediastinum and even from ectopic or supernumerary parathyroid glands.
- Although surgery is the treatment of choice for, the relapse rate ranges between 5% and 30% and is higher (65%) in patients with mediastinal node involvement.
- Therefore, adjuvant treatment with chemotherapy and/or thoracic radiation therapy is recommended, even though their efficacy has not been adequately demonstrated

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