A case of metastatic Small Cell Lung Cancer presenting with ataxia and III & IV Cranial Nerve palsies

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Introduction

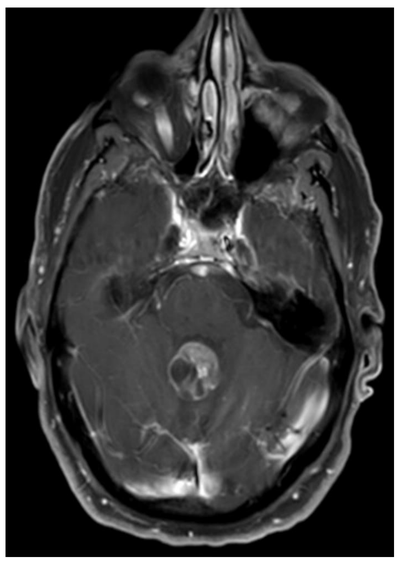
- Small cell lung cancer (SCLC) commonly presents in male heavy smokers around the age of 70.
- However, presenting symptoms are highly variable from pulmonary symptoms to paraneoplastic syndrome to neurological symptoms.
- Our case is unique with respect to presentation as the patient did not have any pulmonary symptoms but had ataxia and specific cranial nerve palsies (III and IV cranial nerve).

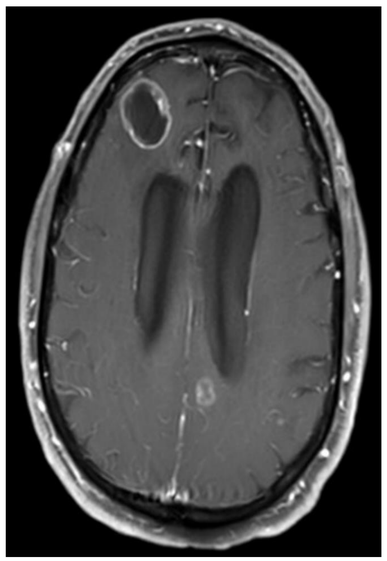
Case Description

- 69-year-old male with 24 pack-year smoking history, past medical history significant for basal cell carcinoma presenting with a month-long history of ataxia.
- His imbalance led to a fall which prompted hospitalization. Patient was admitted for the work up of mechanical fall secondary to ataxia.
- On physical exam, he was noted to have slight hypertropia, mild ptosis and outward deviation of his right eye consistent with mild CN III and IV palsy.
- He also had significant ataxia, with a propensity to fall towards the right side.
- CT Angiogram: multiple small hypodense lesions in the right cerebellum, bilateral peduncles, and right frontal lobe. One of the lesions had a small subarachnoid hemorrhage (SAH). This was concerning for brain metastasis.

Clinical Course

- MRI brain: multiple enhancing intracranial metastases with the largest enhancing metastasis in the midline involving the vermis of cerebellum causing mass effect on the fourth ventricle with secondary mild obstructive hydrocephalus of lateral and third ventricles.
- CT scan of chest showed a 3.6 cm left posterior perihilar mass, left lower lobe bronchus constriction, and 3.3 cm metastatic lymph node in left axilla.
- He was started on dexamethasone for symptoms of mass effect.
- Lymph node biopsy confirmed that the primary cancer was small cell lung cancer.
- Due to the numerous metastases, the patient was planned for whole brain radiation and outpatient chemotherapy.
- The patient's presenting symptoms of CN III/IV palsy and ataxia improved with steroids, and he was discharged home.





Discussion

- SCLC spreads rapidly and often has a small primary with multiple metastasis on presentation. Common metastasis for SCLC is liver, bone, brain and other parts of the lung [1].
- Staging for SCLC includes CT chest, abdomen, and pelvis as well as brain MRI.
- When brain metastases are found, patients undergo urgent whole brain radiation. Even patients without brain metastasis may undergo prophylactic cranial irradiation (PCI) with either limited stage or extensive stage [2][3].
- This practice is supported by multiple studies that show the incidence of brain metastasis is lesser if the patient received PCI.

Summary/Learning points

- Although brain metastasis is commonly found on presentation, patients less often present with specific cranial nerve palsies, like in this patient.
- Noting this possible presentation is crucial to early diagnosis and rapid therapy initiation.

References

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