



# Diplopia: An Unusual Presentation of Small Cell Lung Cancer

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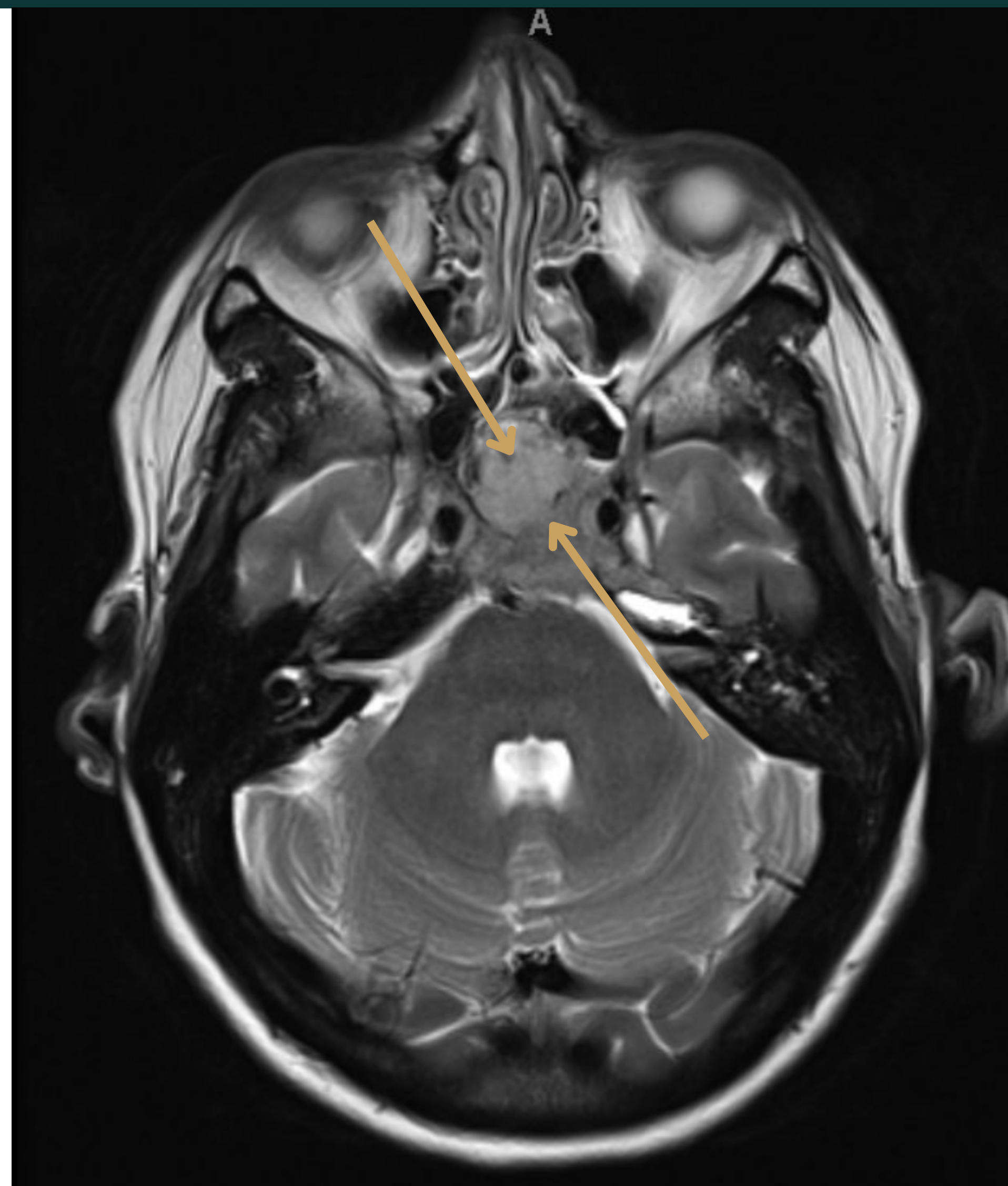
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## Introduction

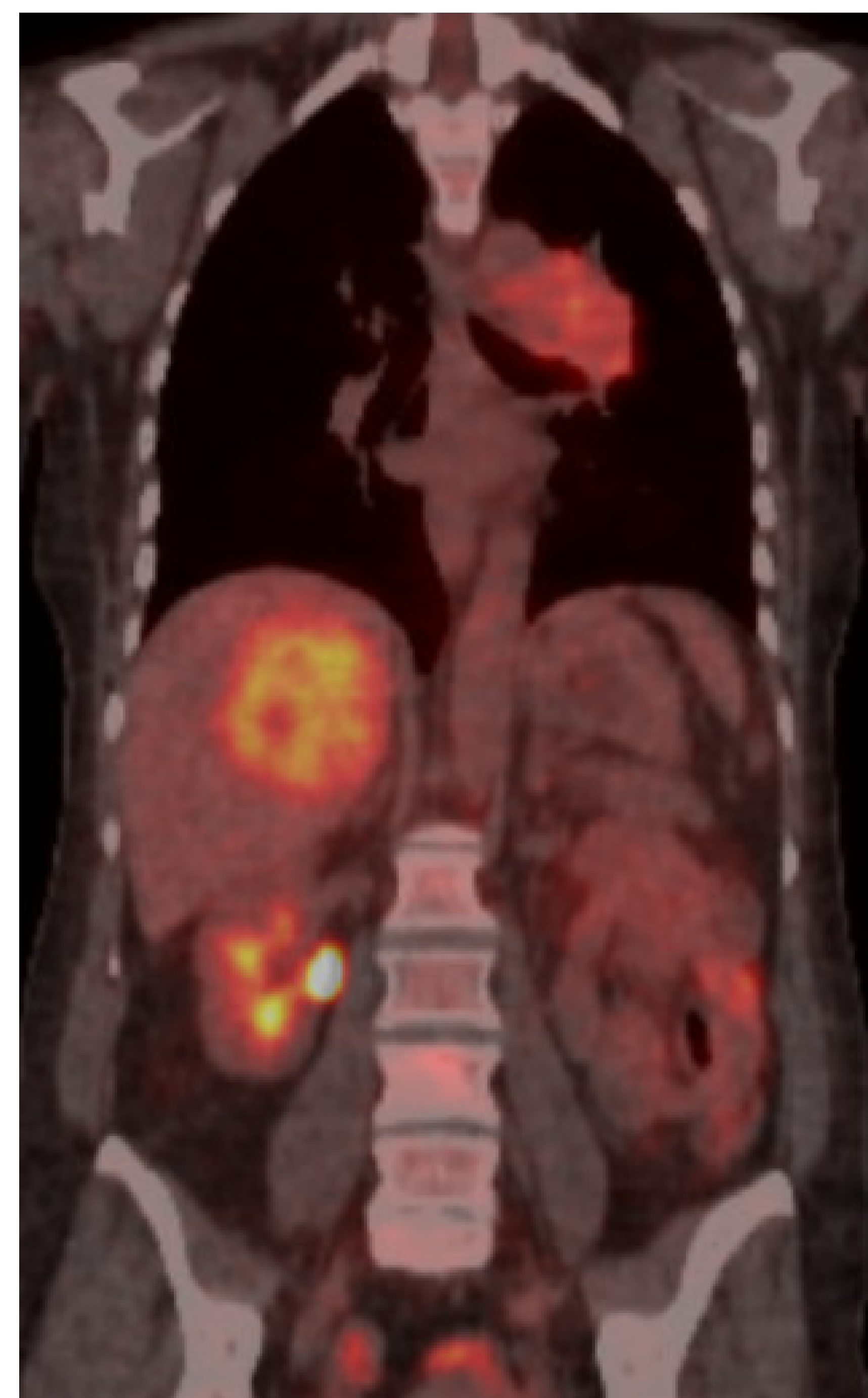
Diplopia, or double vision, is extremely common, resulting in more than 800,000 ambulatory visits per year. It can originate from multiple different etiologies, including the eye, orbit, extraocular muscles, neuromuscular junction, or even the central nervous system. The case discussed is an example of a patient with new onset, transient diplopia that was found to be a result of a neuroendocrine tumor of the sphenoid sinus. This case study serves to demonstrate a rare, but life-threatening cause, of a common symptom, and the importance of an expanded differential when a patient deteriorates.

## Case Study

A 51-year-old female presented to the clinic with the chief complaint of double vision. She described transient, binocular, diplopia that occurred only while driving. Initial physical exam was unremarkable, and symptoms were attributed to recent viral illness. However, she presented one week later with slightly worsening diplopia and new-onset eye fatigue. Repeat exam demonstrated medial deviation of the right eye as well as bilateral eye fatigue with sustained upward gaze. CT head was negative. Symptoms persisted, and the patient then developed intermittent headaches. She was given a short burst of Prednisone and an urgent referral was made to Neurology. Neurology sent the patient to the ED for further evaluation, where MRI of the brain demonstrated soft tissue mass of the left sphenoid sinus. Biopsy revealed a high-grade neuroendocrine carcinoma consistent with small-cell lung cancer. PET scan unfortunately showed widely metastatic disease with a primary left hilar mass as well as bone and liver metastasis.



MRI Brain: sphenoid mass as indicated by arrows



PET Scan: demonstrating liver and bone metastasis

## Outcome

Patient is currently undergoing palliative chemotherapy with Carboplatin/Etoposide and Atezolizumab as well as palliative radiation to the sphenoid mass.

## Discussion

Diplopia is a common chief complaint due to its sudden onset and often unsettling nature. Although disconcerting, for most patients, diagnoses are rarely serious. One study estimates only 16% of patients with diplopia had potentially life-threatening etiologies. While most often benign, diplopia does have the potential to harbor serious pathology and should always be evaluated thoroughly to uncover any potentially dangerous causes. This case provides an example of a rare, but life-threatening cause of diplopia -- a neoplasm. It demonstrates the importance of a detailed history, precise exam, and comprehensive differential in order to make an accurate diagnosis. More importantly, it exemplifies the utility of expanding that differential if symptoms worsen or fail to improve.

## References

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