

Neurology[®]

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The Official Journal of the American Academy of Neurology



Neurology Publish Ahead of Print
DOI: 10.1212/WNL.000000000201061

Teaching NeuroImages: Horizontal Diplopia Due to Extraocular Muscle Metastasis

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Figure Count:

1

Table Count:

0

Search Terms:

[120] MRI, [189] Orbit, [194] Diplopia (double vision), [213] All Oncology, [217] Metastatic tumor

Acknowledgment:**Study Funding:**

The authors report no targeted funding

Disclosures:

The authors report no relevant disclosures.

Preprint DOI:**Received Date:**

2022-01-10

Accepted Date:

2022-06-17

Handling Editor Statement:

Submitted and externally peer reviewed. The handling editor was Roy Strowd III, MD, Med, MS.

An 80-year-old woman with previously resected melanoma of the right thigh presented with acute binocular diplopia. Neurologic exam demonstrated inability to abduct the left eye with normal right eye adduction. Exam was otherwise normal. This presentation of left lateral rectus palsy can occur due to ischemic, inflammatory, autoimmune, compressive, or neoplastic etiologies. MRI orbits identified an enhancing left lateral rectus lesion consistent with extraocular muscle metastasis. MRI brain revealed multiple-subcentimeter enhancing lesions (figure)¹. Subsequent lymph node biopsy confirmed metastatic melanoma. Despite radiotherapy and BRAF-targeted systemic therapy, rapid progression occurred, and the patient died five months after initial evaluation.²

WNL-2022-201006_slides -- <http://links.lww.com/WNL/C261>

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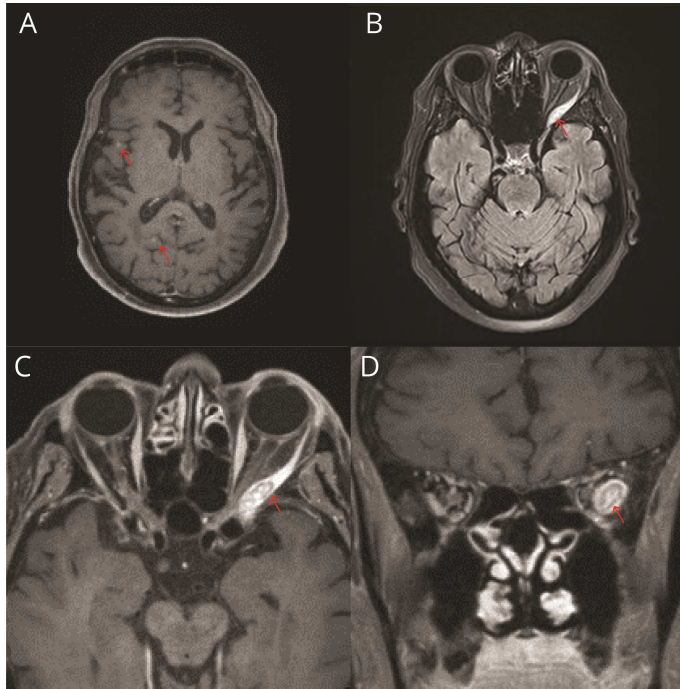
Figure 1: MRI of the brain and orbits

A. Post-contrast T1-weighted MRI axial demonstrating subcentimeter right frontal and right occipital enhancing lesions consistent with metastasis (arrows).

B. T2-weighted FLAIR MRI demonstrating left lateral rectus lesion (arrow).

C. Post-contrast T1-weighted MRI of the orbits demonstrating enhancing lesion involving left lateral rectus (arrow) in axial view.

D. Post-contrast T1-weighted MRI of the orbits demonstrating enhancing lesion involving left lateral rectus (arrow) in coronal view.



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Neurology published online August 19, 2022

DOI 10.1212/WNL.0000000000201061

This information is current as of August 19, 2022

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