HPI: 68 year old male with blurry vision

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Patient Presentation

• HPI: 68-year-old male who presents with blurry vision for approximately 1 year. He recently saw his optometrist who had concern for an intraocular lesion.

• Past Medical History: Multiple malignant melanomas of the skin s/p excision, coronary artery disease, hypertension, and multiple gun shot wounds s/p many abdominal surgeries
Objective Findings

• Physical Exam:
  • HENT: Normocephalic and atraumatic. Normal bilateral tympanic membranes, ear canals, and external ears. No congestion or rhinorrhea. No oropharyngeal exudate
  • Eyes: No scleral icterus, no discharge. EOMI bilaterally. Conjunctivae normal. Pupils are equal, round, and reactive to light.
  • Neuro: Alert and orientated to person, place, and time. Baseline mental status. No cranial nerve deficits. Strength and sensation overall intact.

• CBC w diff: Normal

• CMP: Normal
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

<table>
<thead>
<tr>
<th>Variant 6: Visual loss. Intraocular mass, optic nerve, or pre-chiasm symptoms. Initial imaging.</th>
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<td><strong>Procedure</strong></td>
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<td>MRI orbits without and with IV contrast</td>
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<td>CT orbits with IV contrast</td>
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<td>MRI orbits without IV contrast</td>
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<td>MRI head without and with IV contrast</td>
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<td>CT head without IV contrast</td>
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<td>CTA head and neck with IV contrast</td>
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<td>MRA head and neck without and with IV contrast</td>
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<td>MRA head and neck without IV contrast</td>
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<td>Arteriography cervicocerebral</td>
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<tr>
<td>CT head without and with IV contrast</td>
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<tr>
<td>CT orbits without and with IV contrast</td>
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<td>X-ray orbit</td>
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This imaging modality was ordered by the physician.
Findings (labeled)

- T2 hypointense mass in the left globe
- T1 isointense mass in the left globe
- No retro-orbital extension. Orbital fat planes are preserved.
- Mass solidly enhances

Axial T2
Axial T1 pre-contrast
Axial T1 post-contrast
Differential Diagnoses

• Metastases, choroidal detachment, uveal neurofibroma, uveal schwannoma, ocular melanoma

• Of Note: Fat, protein, hemorrhage, and melanin may be hyperintense on T1 imaging
Final Dx:

Primary Ocular Malignant Melanoma

*thought to be primary because no additional lesions discovered
Case Discussion

• Definition
  • Ocular melanoma is a rare but deadly malignancy that arises from melanocytes within the uveal tract, conjunctiva, eyelid, and orbit.
  • Uveal melanoma is the most common type

• Etiology/Epidemiology
  • Risk factors include sun exposure, tanning, light skin/eye color, atypical cutaneous nevi, iris nevi, and freckles
  • Multiple different genetic mutations have been associated with uveal melanoma although no direct causes
  • Most common primary intraocular malignancy
  • Primarily seen in the white population
  • Incidence increases with age
Case Discussion

• **Clinical Presentation**

  • Dependent on location.
    • Choroidal tumors can cause retinal detachment
    • Conjunctival melanomas can present as an elevated brown nodule
    • Ciliary body tumors can cause lens displacement and disturbances in accommodation
    • Iris melanomas can distort the pupil and cause cataracts and glaucoma
  
  • Commonly asymptomatic at diagnosis
  
  • Common symptoms include blurry vision, visual field defect, flashing lights, redness, irritations, pain, and a pressure-like sensation
  
  • Monitoring for metastasis should be performed regularly regardless of stage and treatment
Case Discussion

• Pathology
  • Primarily believed to be due to oxidative damage
  • Histologically, mixed melanoma containing both spindle and epithelioid cells is the most common subtype.
    • This case was confirmed by pathology to be uveal melanoma, epithelioid type with evidence of extrascleral spread

• Treatment and Prognosis
  • Treatment options based on tumor size include laser photocoagulation, transpupillary thermotherapy, plaque radiation therapy, particle beam radiotherapy, local surgical resection, and enucleation
  • Poor prognosis factors: age > 60 years, larger tumors, anterior location within the globe, epithelioid cells, and extraocular extension
  • High risk of distant metastasis: most commonly liver, lung, and bone
  • 50% mortality rate despite treatment advances
References:


