Melanoma-associated Retinopathy: TRIIC does the Trick

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Disclosures
• None relevant to the presented materials
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Summary

- Melanoma-associated retinopathy has a progressive course, without good treatment options to reverse vision loss

- Case report:
  - Patient with recently-diagnosed stage IIIB (LN-involving) cutaneous melanoma
  - Presented with classic melanoma-associated retinopathy, negative ERGs with poor amplitudes, visual field loss, nyctalopia, and positive visual phenomena
  - Worsened on systemic steroids, systemic interferon

- Treatment instituted:
  - Triple Therapy with IV Rituximab, IVIG, and Intravitreal Corticosteroids (TRIIC)

- Outcome:
  - Normalized ERGs, improved VF/nyctalopia, resolved photopsias, 20/20 VA OU
Case Presentation

• 65-year-old man, with:
  • Flickering photopsias
  • Decreased visual acuity (20/25 OU, but subjective loss)
  • Nyctalopia OU
Past Medical History

• Recent stage IIIB cutaneous melanoma
  • Diagnosed a few weeks prior to onset of visual symptoms
  • Treated with local excision
  • Lymph node dissection (positive nodes)

• Recently began adjuvant therapy with IV interferon-α
  • 5 days/week for 4 weeks, followed by SQ 3x/week for 11 months
Examination Findings

• Visual Acuity: 20/25 OU
• Trace nuclear sclerosis OU
• Global depression and peripheral constriction on GVFIs
Examination Findings

• ERGs showed:
  • Negative waveforms
  • Reduced amplitudes
    • 217.3 μV B-wave OD
    • 211.8 μV B-wave OS
Provisional Diagnosis?

• Melanoma-associated retinopathy
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• Melanoma-associated retinopathy

Laboratory Studies?

• Anti-retinal autoantibodies
  • 46-kDA (enolase)
  • 94-kDA
  • but not to TRPM1
Treatment

• Initially started on systemic prednisone (60mg)
  • Patient described subjective improvement in symptoms
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• Steroids decreased
  • Visual symptoms increased
  • ERG amplitudes decreased
    • B-wave amplitudes decreased from >200 μV OU, to <100 μV OU
Treatment Approach?

• Cellular immunity (T cells) important for immune surveillance for melanoma micrometastases
• Humoral immunity (B cells/antibodies) important for auto-immune retinopathies

• Can’t suppress the systemic immune system

• Target the B cells, target the eye
Treatment Approach?

• Began triple therapy with:
  • IV Rituximab (anti-CD20)
    • Q6 months
    • 3 doses (covers 18 months)
  • IVIg (intravenous immunoglobulin)
    • Monthly
  • Intravitreal Corticosteroids
    • Triamcinolone Acetonide 4mg
    • Q3 months
    • 3 injections
Pembrolizumab

• Anti-Programmed Cell Death-1 (anti-PD1)
  • Potent immune stimulatory antibody
  • Immune checkpoint inhibitor
  • Antineoplastic agent

• How is this going to impact MAR?
  • There is no data on this
  • Immune checkpoint inhibitors are used broadly now
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**TRIIC did the trick**
Therapies for MAR

- Rituximab, intravitreal corticosteroids, and IVIg have each been used, separately, as therapies for MAR
- While there may be some evidence that they slow worsening, they have not been reported to actually improve the condition
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• Periocular triamcinolone with temozolamide stabilized visual acuity
• Only 4 cases in which ERGs have ever improved:
  • Cytoreductive surgery
  • Cytoreductive surgery plus IFN-β
  • IFN-α
  • Fluocinolone sustained-release intravitreal implant
Thank you!

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