

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

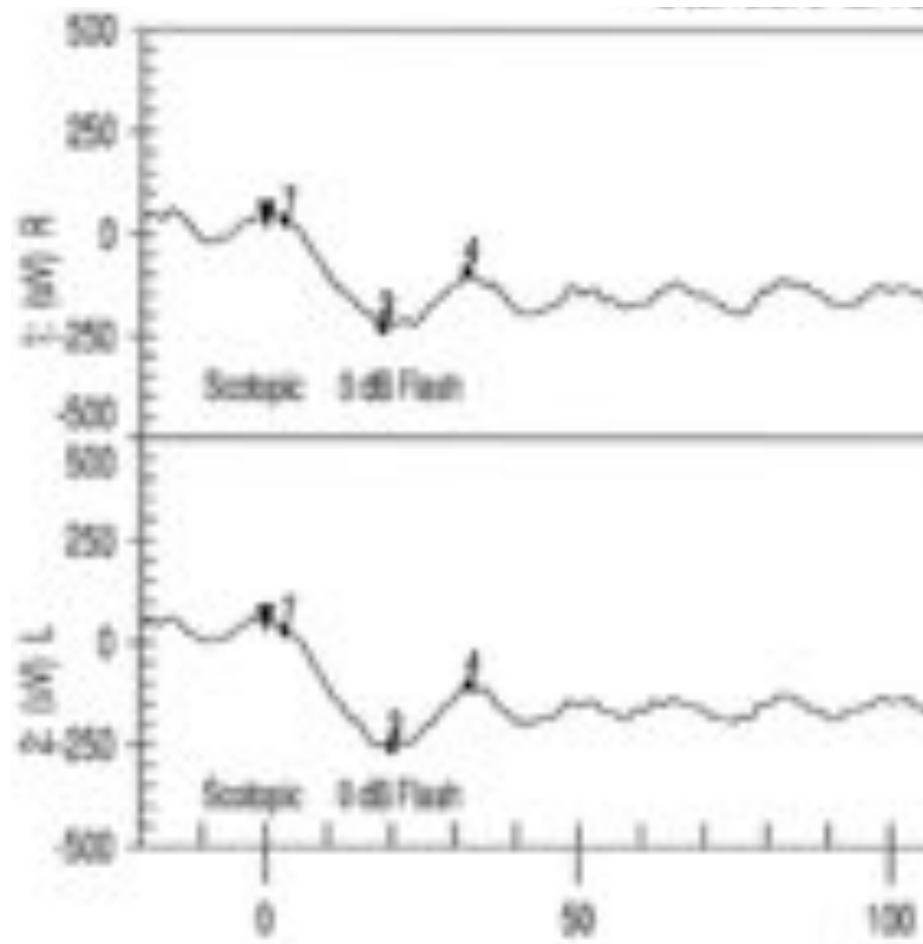
Past Medical History

- 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 GVF's

Examination Findings



Milliseconds

- 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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Laboratory Studies?

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

Treatment

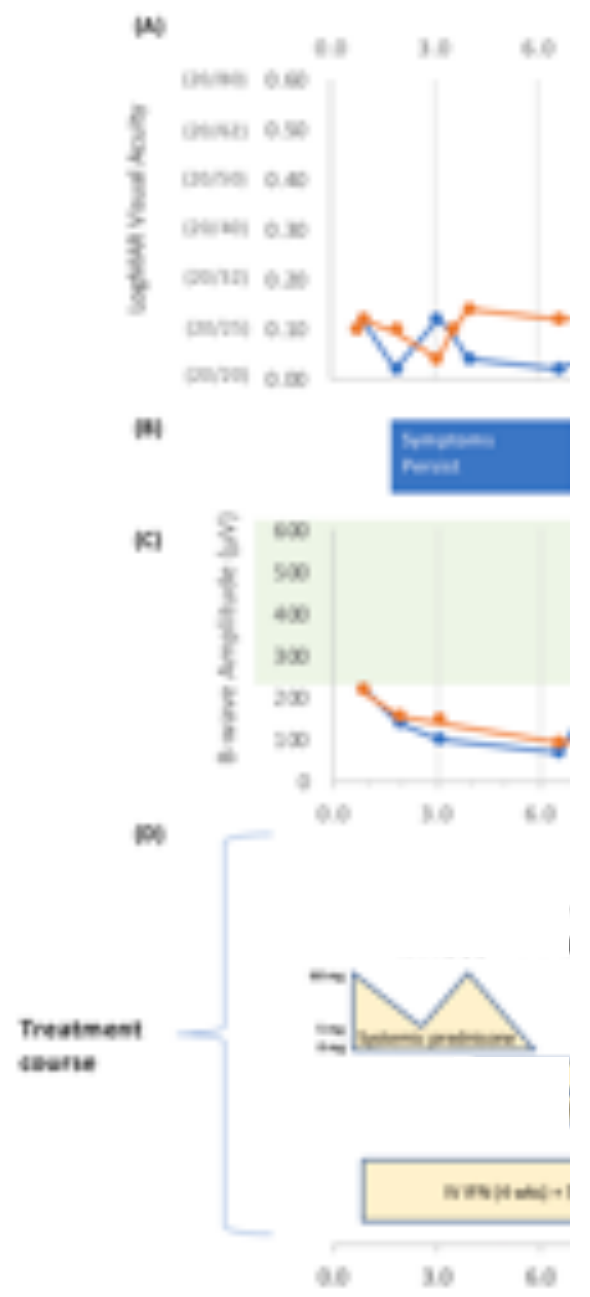
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Treatment

- Initially started on systemic prednisone (60mg)
 - Patient described subjective improvement in symptoms
- Oncologist insisted on rapid taper
 - Risk of suppression of immune surveillance of mets
- Steroids decreased
 - Visual symptoms increased
 - ERG amplitudes decreased
 - B-wave amplitudes decreased from $>200 \mu\text{V}$ OU, to $<100 \mu\text{V}$ OU

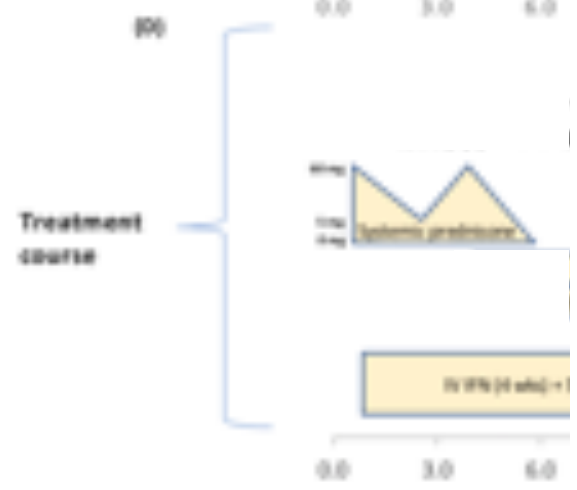
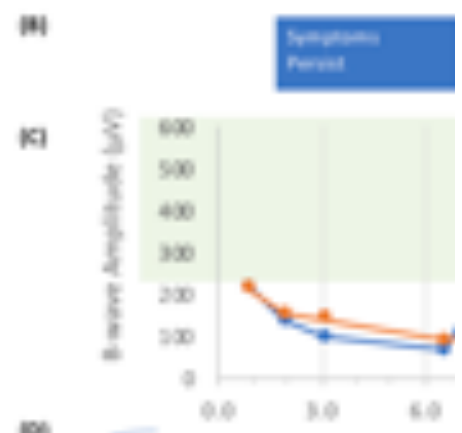


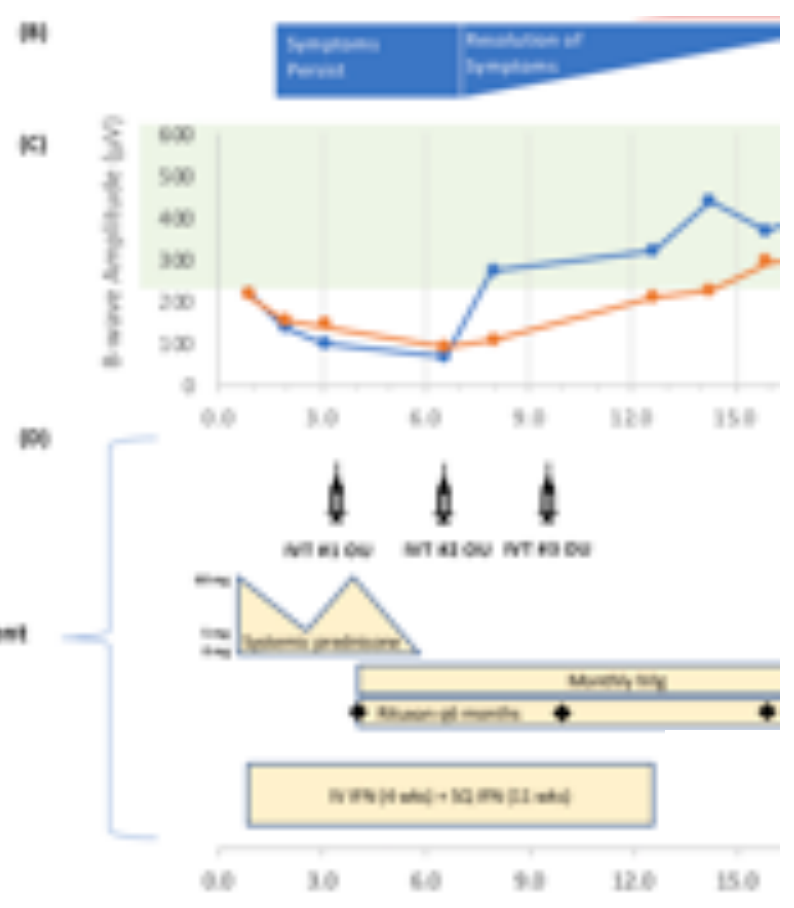
Treatment Approach?

- 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

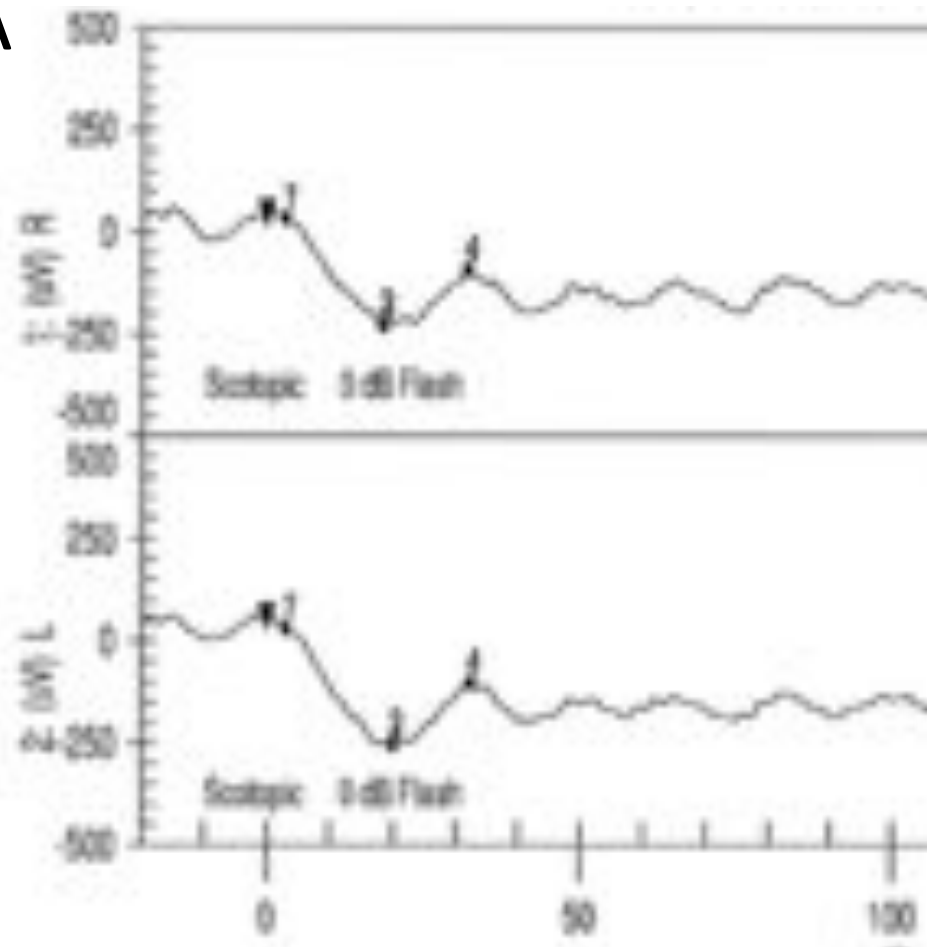
Treatment Approach?

- 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

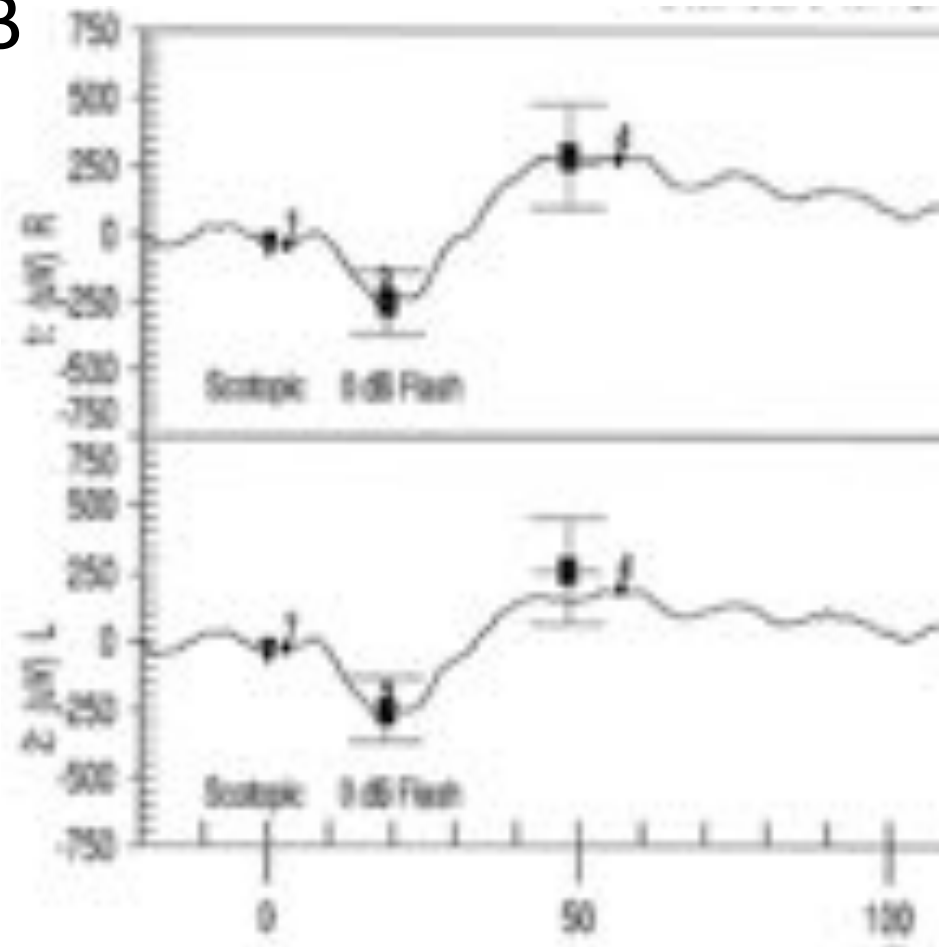


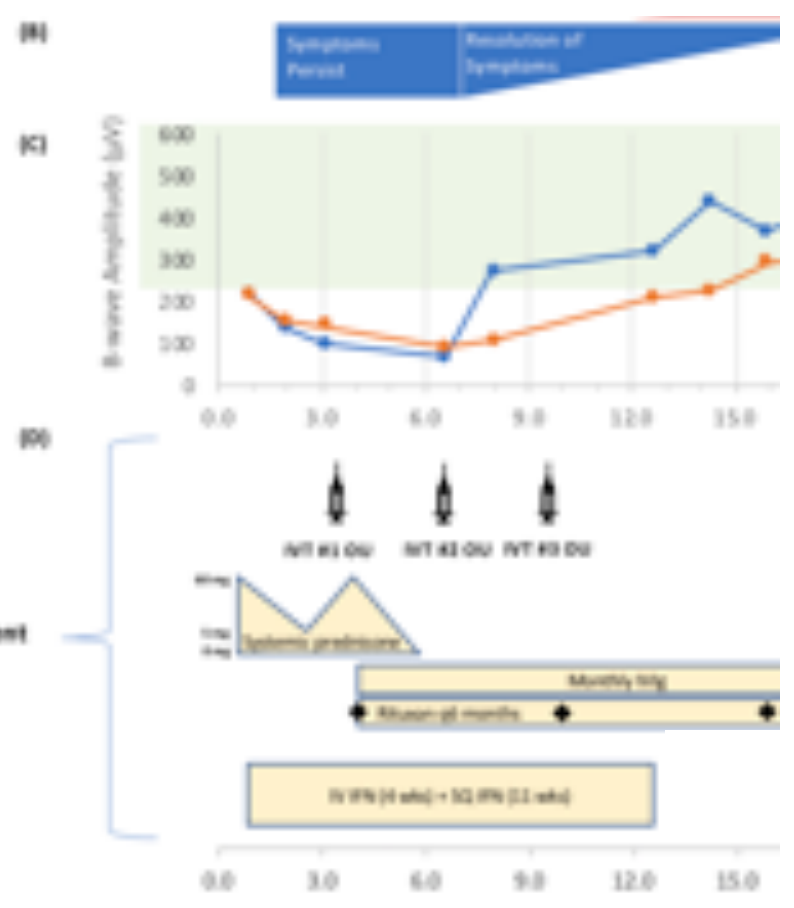


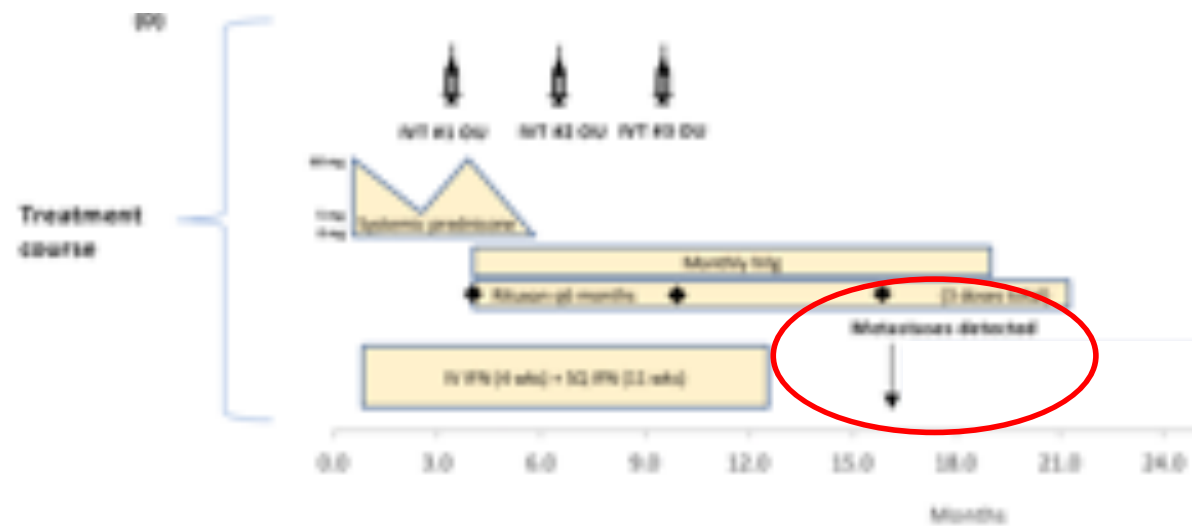
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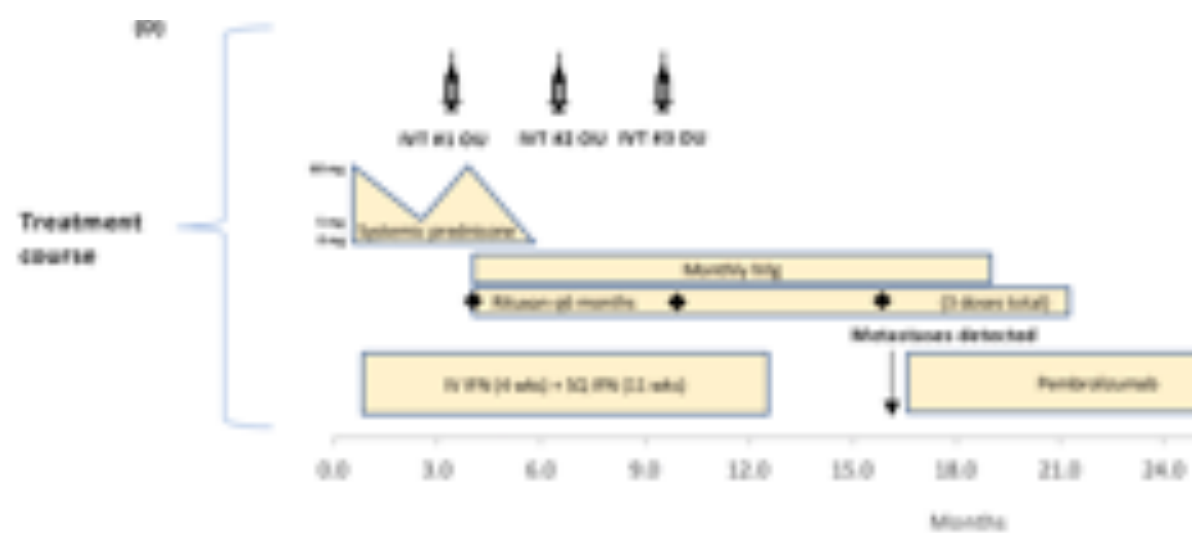


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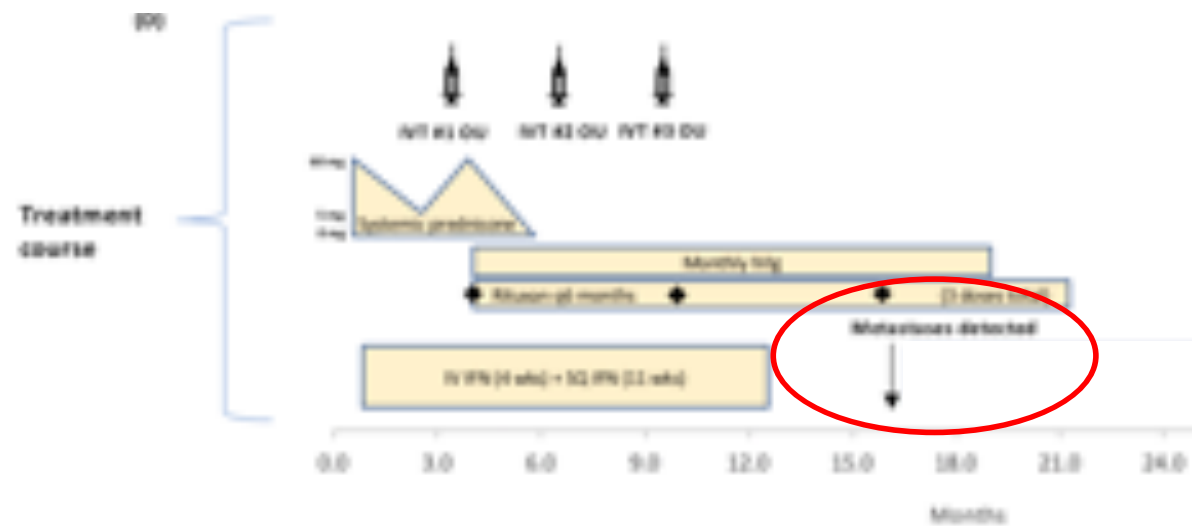


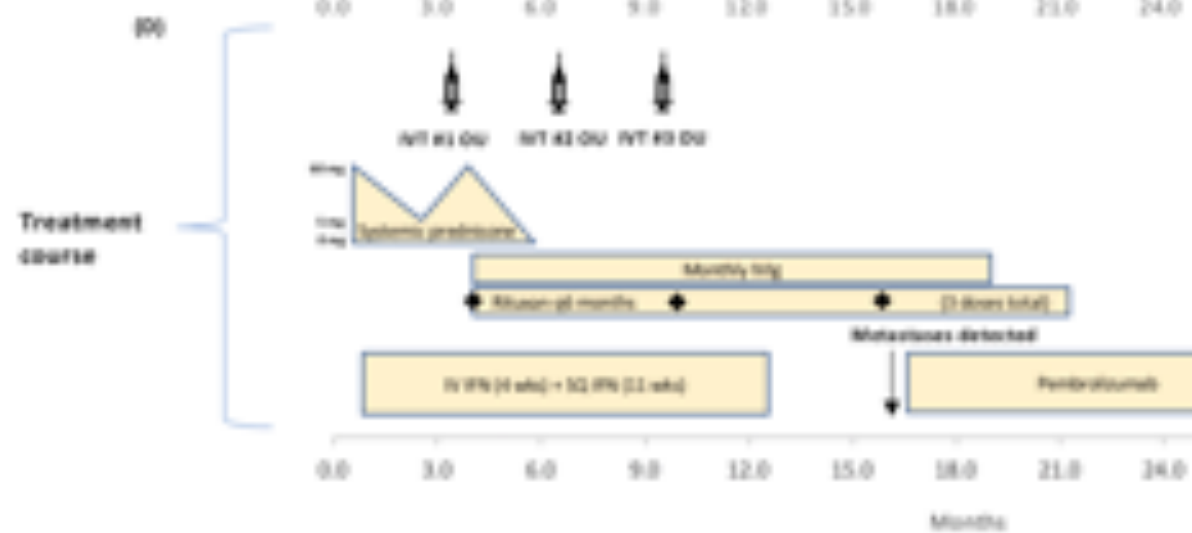
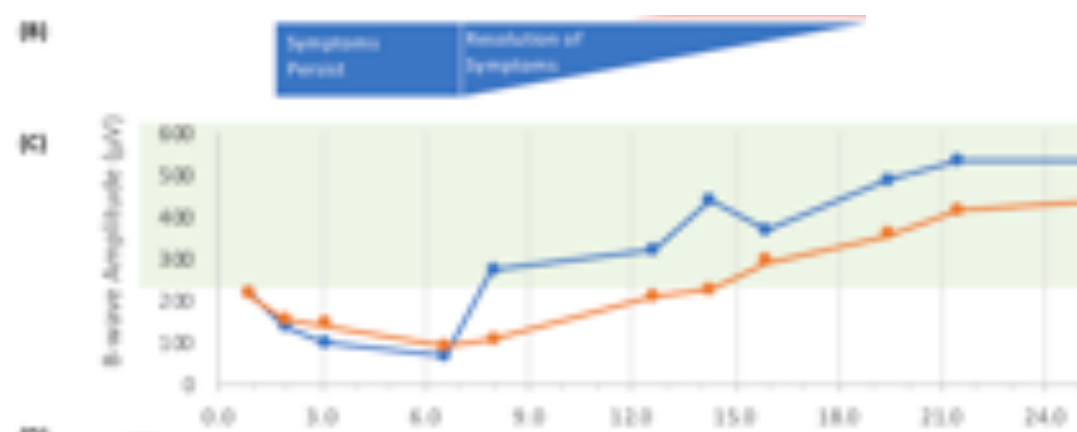


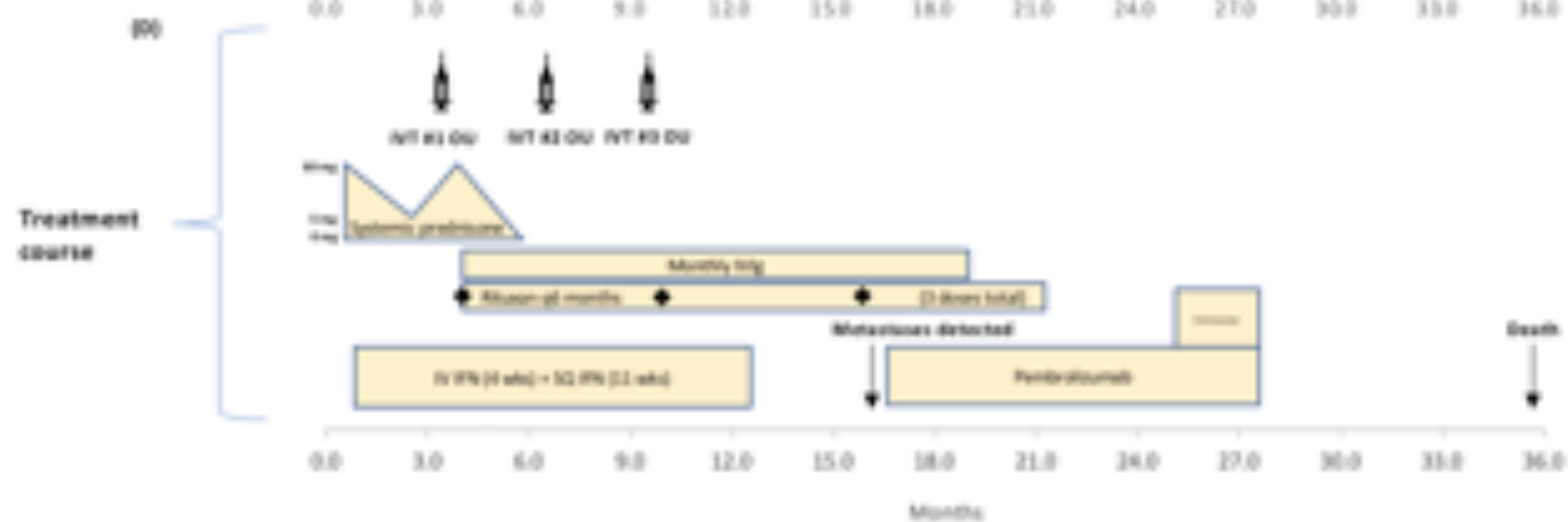
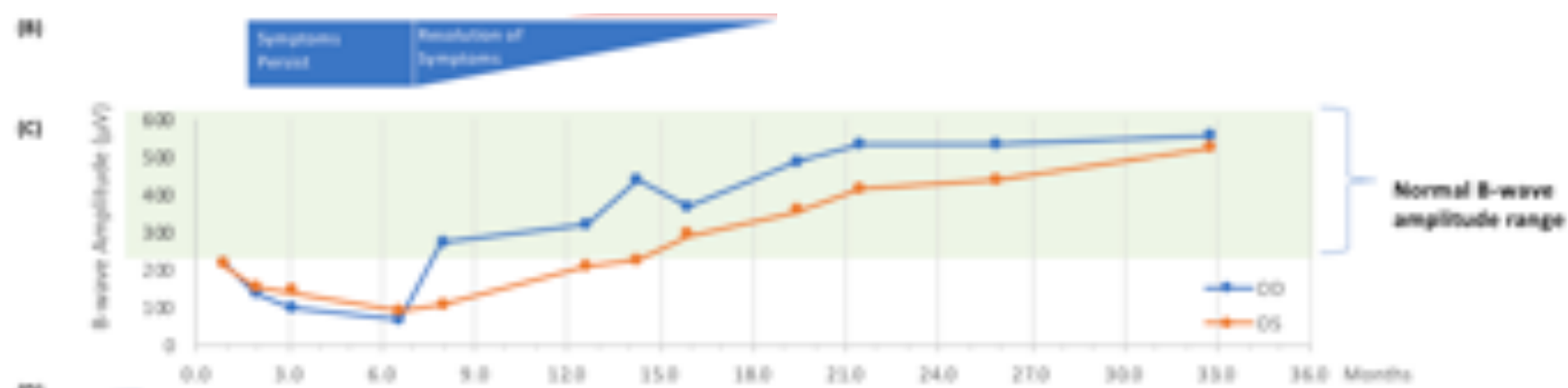
Pembrolizumab

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

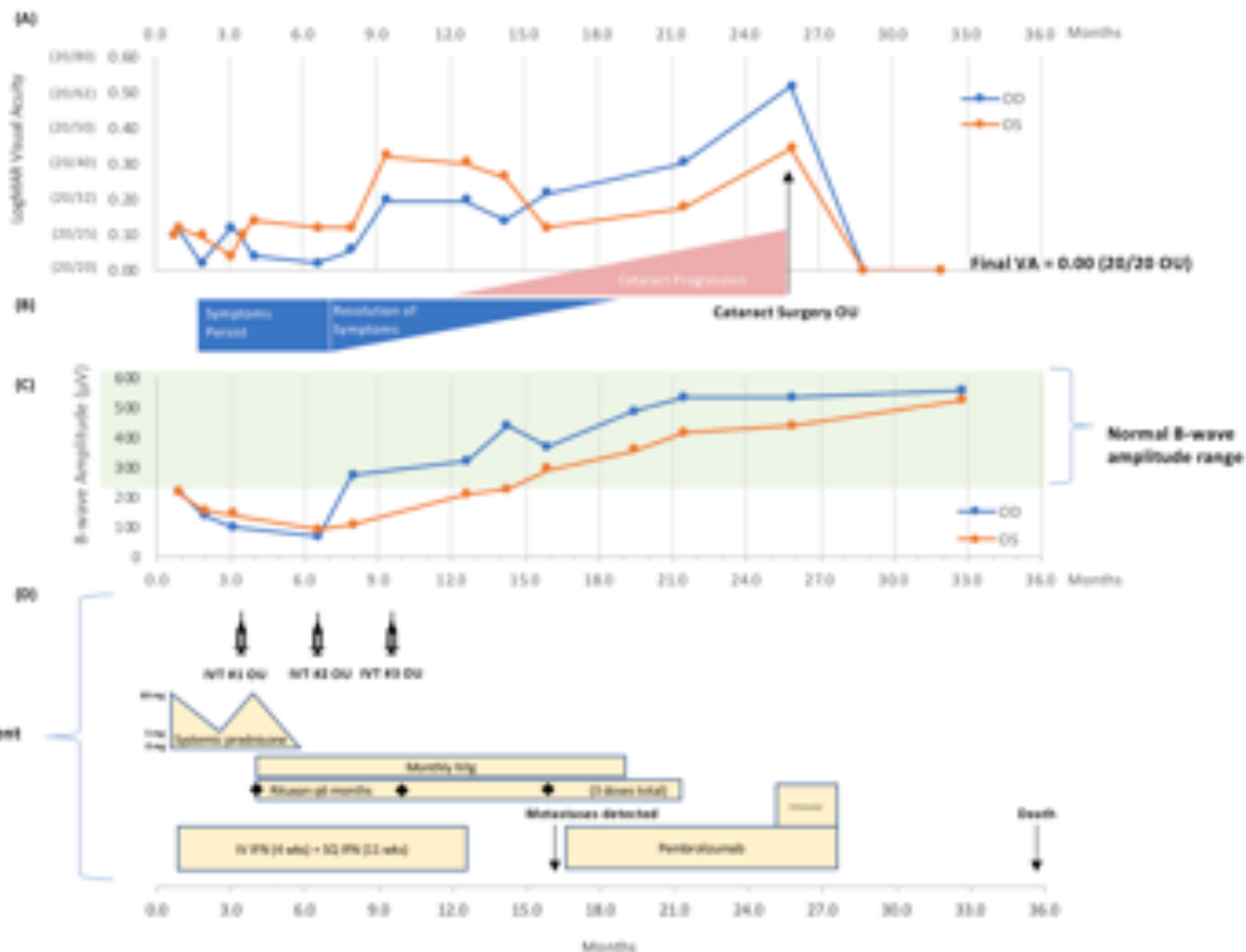
- How is this going to impact MAR?
 - There is no data on this
 - Immune checkpoint inhibitors are used broadly now







Treatment Timeline



Treatment Approach?

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- 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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- While there may be some evidence that they slow worsening, they have not been reported to actually improve the condition
- 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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