Interesting Case Presentation
Retina Society 2020

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Financial Disclosures

- Data and Safety Monitoring Committee Member
  - Pfizer
  - Amgen
  - Syneos Health
  - Aura Biosciences
- Clinical trial funding
  - Apellis

No financial interests relevant to the content of this presentation
57-year-old man reported 3 week history of
  • blurry vision OU
  • lethargy, weight loss, and altered mental status
Medical History

PMH

• Chronic glomerulonephritis with IgA nephropathy
• IgA mediated leukocytoclastic vasculitis
  • skin and GI involvement
• DM II x 15 years

Medications

• Cyclophosphamide
• Rituximab
• Prednisone 15mg daily
• Trimethoprim-sulfamethoxazole 800mg-160mg 3 times per week
• Insulin
Social history

- Forklift operator
- Outdoorsman/hunter (2 cats, 1 dog)

ROS

- General
  - *lethargy and decreased appetite*
  - no fever or recent viral illness
- HENT
  - no cold sores
- GI/GU
  - no diarrhea, no genital lesions
- Rheumatologic
  - no swollen or tender joints or skin rashes
- Neurologic
  - *altered mental status*
<table>
<thead>
<tr>
<th></th>
<th>OD</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA</td>
<td>20/60-1 PH NI</td>
<td>20/70-2 PH NI</td>
</tr>
<tr>
<td>Pupils</td>
<td>No RAPD</td>
<td>No RAPD</td>
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<tr>
<td>Visual fields</td>
<td>Superotemporal deficit</td>
<td>Inferior deficit</td>
</tr>
<tr>
<td>IOP</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>SLE</td>
<td>AC quiet</td>
<td>AC quiet</td>
</tr>
<tr>
<td>Vitreous</td>
<td>1+ cells, opacities</td>
<td>2+ cells, opacities</td>
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Differential Diagnosis?

**Infectious**
- Bartonellosis
- syphilis
- tuberculosis
- fungal
  - cryptococcus
- viral retinitis
- toxoplasmosis
- Lyme disease

**Inflammatory**
- IgA vasculitis

**Neoplastic**
- intraocular lymphoma
**Infectious**
- Bartonellosis
- syphilis
- tuberculosis
- fungal
  - cryptococcus
- viral retinitis
- toxoplasmosis
- Lyme disease

**Negative or normal**
- Bartonella Ab panel
- RPR, FTA-ABS
- Quantiferon blood cultures
- cryptococcus antigen
- HSV/VZV/CMV PCR
- toxoplasmosis PCR
- Lyme IgG

**Inflammatory**
- IgA vasculitis

**Neoplastic**
- intraocular lymphoma
T1 post-contrast  
T2 flair
Now What?

**Lumbar puncture**
- Gram stain: PMNs with no organisms
- Fungal culture: no growth
- Acid-fast bacilli culture: no growth
- PCR for HSV/VZV and toxoplasmosis: negative
- Cryptococcus antigen: negative
- Leukemia/lymphoma immunophenotyping: insufficient cell volume

**Diagnostic vitrectomy**
- Vitreous cultures: no growth
- Broad range PCR: no bacterial, mycobacterial or fungal DNA
- Cytology
  - chronic inflammatory cell population
  - no evidence for malignancy
And Now?

**Concern for CNS lymphoma per primary service**
- Brain biopsy
- Tissue sent for PCR
  - Bartonella PCR (16S rRNA): **positive**
  - *Bartonella henselae* confirmed by specific primers

**Treatment initiated for CNS Bartonellosis**
- Rifampin 300mg PO BID
- Doxycycline 100mg PO BID
- IVIG for hypogammaglobulinemia
- Cyclophosphamide and rituximab suspended given active infection
After 5 months of treatment
Take Home Points

• Clinical clues to Bartonella neuroretinitis
  • multifocal discrete retinitis or choroidal lesions
  • especially *inner retinal*
  • disc infiltration/edema
• Vasculitis and vasoproliferative lesions rare but can be seen in immunocompromised patients
• Bartonella serology testing has limited sensitivity (~70%) and specificity
  • may be negative in immunosuppressed patients
  • our patient had low IgG and IgM on presentation
    • had seroconversion 12 weeks after presentation
• PCR of biopsy tissue may be diagnostic in difficult cases
• Trust your clinical impression!
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