CASE CONFERENCE

María José Capella, MD

February 18th, 2011

martes 22 de febrero de 2011
57-year-old woman

Decreased vision (central scotoma) OD 2 years ago

Had been stable till 2 months ago, when a new scotoma appeared

Had been on oral Prednisone and Acetazolamide in the past

PAST MEDICAL HISTORY:

- Hypertension
- Mild psoriasis
- Calcified nodule on the apex of her left lung (likely childhood pleuritis?)

SOCIAL HISTORY:

- Travelled to Egypt 2 years ago

martes 22 de febrero de 2011
57-year-old woman

- Decreased vision (central scotoma) OD 2 years ago
- Had been stable till 2 months ago, when a new scotoma appeared

**BCVA:**

- OD = 20/25 +2 J 1 *(Metamorphopsia)*
- OS = 20/20 J 1

*martes 22 de febrero de 2011*
- 57-year-old woman
- Decreased vision (central scotoma) OD 2 years ago
- Had been stable till 2 months ago, when a new scotoma appeared

**BCVA:**

<table>
<thead>
<tr>
<th>OD</th>
<th>OS</th>
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<tr>
<td>20/25 +2 J 1</td>
<td>20/20 J 1</td>
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(Metamorphopsia)

martes 22 de febrero de 2011
VA = 20/25 +2

martes 22 de febrero de 2011
martes 22 de febrero de 2011
DIFFERENTIAL DIAGNOSIS

AMPPE
Differential Diagnosis

AMPPE

MACULAR SERPIGINOUS CHOROIDITIS

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DIFFERENTIAL DIAGNOSIS

AMPPE
MACULAR SERPiginous CHOROIDITIS
INFECTIOUS CHOROIDITIS

*Tuberculosis / Syphilis / Toxoplasma*

Martes 22 de febrero de 2011
TREATMENT
Prednisone PO 60 mg/day

Tapering 10 mg/day every 10 days
<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRP</td>
<td>+</td>
</tr>
<tr>
<td>RF</td>
<td>+</td>
</tr>
<tr>
<td>HLA B27</td>
<td>-</td>
</tr>
<tr>
<td>HSV 1 and 2: IgG</td>
<td>+</td>
</tr>
<tr>
<td>CMV / EBV</td>
<td>-</td>
</tr>
<tr>
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<td>-</td>
</tr>
<tr>
<td>Syphilis</td>
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<td>Toxoplasma: IgM / IgG</td>
<td>- / +</td>
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martes 22 de febrero de 2011
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<td>-</td>
<td>HLA B27 -</td>
</tr>
<tr>
<td>-</td>
<td>PPD &gt; 20 mm</td>
</tr>
<tr>
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</table>
- CRP +
- RF +
- HLA B27 -
- PPD > 20 mm

- HSV 1 and 2: IgG +
- CMV / EBV -
- HCV / HBV / HIV -
- Syphilis -
- Toxoplasma: IgM - / IgG +

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VA = 20/20 -1

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6 months
VA = 20/25

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Is this a serpiginous choroiditis...?

VA = 20/25

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SERPIGINOUS CHOROIDITIS

- Autoimmune disease
- Males = Females
- 30 – 60 years old
- Bilateral, asymmetric

CHRONIC AND RECURRENT INFLAMMATION

- Beginning in the peripapillary region and spreading centrifugally
- May rarely affect exclusively the macula: MACULAR SERPIGINOUS CHOROIDITIS

Treatment: Corticosteroids + IMT
Is this a serpiginous choroiditis... or...
a TB serpiginous-like choroiditis...?
Clinical disease caused by infection with *Mycobacterium tuberculosis*

1/3 of the world’s population are infected and 10% of these are likely to develop the disease at some time in their lives.

Primarily affects the lungs.

Extrapulmonary involvement (GI tract, GU tract, CV system, skin, CNS and eyes) may occur either in association or not with pulmonary tuberculosis.
### Table 1

**Clinical Presentation in Intraocular Tuberculosis**

<table>
<thead>
<tr>
<th>1. Anterior uveitis</th>
<th>Granulomatous, nongranulomatous, iris nodules, ciliary body tuberculoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Intermediate uveitis</td>
<td>Granulomatous, nongranulomatous with organizing exudates in the pars lana/peripheral uvea.</td>
</tr>
<tr>
<td>3. Posterior and panuveitis</td>
<td>Choroidal tubercle, Choroidal tuberculoma, Subretinal abscess, Serpiginous-like choroiditis</td>
</tr>
<tr>
<td>4. Retinitis and retinal vasculitis</td>
<td></td>
</tr>
<tr>
<td>5. Neuroretinitis and optic neuropathy</td>
<td></td>
</tr>
<tr>
<td>6. Endophthalmitis and panophthalmitis</td>
<td></td>
</tr>
</tbody>
</table>

Eales disease is considered by some to reflect tuberculous infection/hypersensitivity.
A. CHOROIDAL TUBERCLES

- Most common manifestation of tubercular posterior uveitis

- Small nodules, grayish white to yellow, indistinct borders, mostly in the posterior pole, ≤ 1/4 DD

- Usually < 5 tubercles (there may be 50-60)

- Most eyes do not develop anterior segment or vitreous inflammation

POSTERIOR UVEITIS

B. CHOROIDAL TUBERCULOMA

- Large, solitary, subretinal mass (may mimic a tumor)
- Yellowish, with surrounding exudative RD
- 4 - 14 mm
- Hemorrhages and retinal folds may be seen on the tuberculoma surface

C. SERPIGINOUS-LIKE CHOROIDITIS

- Multifocal choroiditis that progresses to a diffuse, contiguous variety, acquiring an active advancing edge like serpiginous choroiditis

- Diffuse plaque-like choroiditis with amoeboidal spread

- The 2nd eye may be affected months or years later

- Relentless progression despite systemic corticosteroids and IMT

<table>
<thead>
<tr>
<th><strong>TB Serpiginous-like Choroiditis</strong></th>
<th><strong>Classic Serpiginous Choroiditis</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>Inflammatory cells</strong> in the vitreous</td>
<td><strong>No</strong> concomitant vitritis</td>
</tr>
<tr>
<td><strong>Posterior pole/periphery</strong> (usually sparing the peripapillary area)</td>
<td><strong>Peripapillary</strong> area spreading centrifugally</td>
</tr>
<tr>
<td><strong>Asimetric</strong></td>
<td><strong>Bilateral</strong> involvement more common</td>
</tr>
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**Clinical Features of Tuberculous Serpiginous-like Choroiditis in Contrast to Classic Serpiginous Choroiditis**

Daniel V. Vasconcelos-Santos, MD, PhD; P. Kumar Rao, MD; John B. Davies, MD; Elliott H. Sohn, MD; Narsing A. Rao, MD

Arch Ophthalmol. 2010;128(7):853-858
A. Fluorescein Angiography

- Active lesions: initial hypofluorescence with late hyperfluorescence

- Healed lesions: transmission hyperfluorescence or blocked fluorescence due to overlying pigment epithelial proliferation.
B. Indocyanine Green Angiography

- Active lesions: hypofluorescent spots during the early and late phases
- The ICG changes are reversible and may be used to monitor response to therapy

GUIDELINES FOR DIAGNOSIS OF INTRAOCULAR TB

CONFIRMED (DEFINITIVE) INTRAOCULAR TB:
1 clinical sign + 1 positive test of OCULAR investigations:

- Demonstration of Acid-Fast Bacillus by microscope or culture of *M. tuberculosis* from the ocular fluids
- Positive PCR from ocular fluids

PRESUMED INTRAOCULAR TB:
1 clinical sign + 1 positive test of SYSTEMIC investigations:

- Positive PPD / IGRA (QuantiFERON, T-SPOT.TB)
- CXR: evidence of healed or active tubercular lesion
- Confirmed active extrapulmonary tuberculosis (either by microscopic examination or by culture)

OR a positive therapeutic test (positive response to 4-drug ATT x 4-6 wks) + exclusion of other uveitis entities (syphilis, toxoplasmosis, etc.)

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PRESUMED INTRAOCULAR TB
T-SPOT.TB test: POSITIVE

VA = 20/25

martes 22 de febrero de 2011
4 drugs ATT (isoniazid, rifampicin, pyrazinamide and ethambutol) for an initial 2-month period followed by a choice of different options over next 4-7 months (total of 6-9 months)

ATT reduces the number of recurrences

Concomitant use of systemic corticosteroids (to combat delayed HS)
T-SPOT.TB test: POSITIVE

ATT with 3 drugs x 9 months

VA = 20/25

8 months

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VA = 20/25 +2

7 months after starting ATT

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Excellent response
No progression of the CR lesions
No need for systemic steroids

VA = 20/25 +2

7 months after starting ATT

martes 22 de febrero de 2011
7 months after starting ATT

martes 22 de febrero de 2011

VA = 20/20
CONCLUSIONS

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- Establishing a diagnosis of intraocular TB remains challenging (most are diagnosed as presumed rather than definitive intraocular TB)
Infections must always be kept in mind

Intraocular TB may present with features simulating SC

Tuberculous Serpiginous-like Choroiditis is a rare entity and may occur without concomitant pulmonary involvement

Establishing a diagnosis of intraocular TB remains challenging (most are diagnosed as presumed rather than definitive intraocular TB)

Distinguishing it from SC is critical because the treatment is completely different (immunosuppressive drugs vs ATT)
Thank you