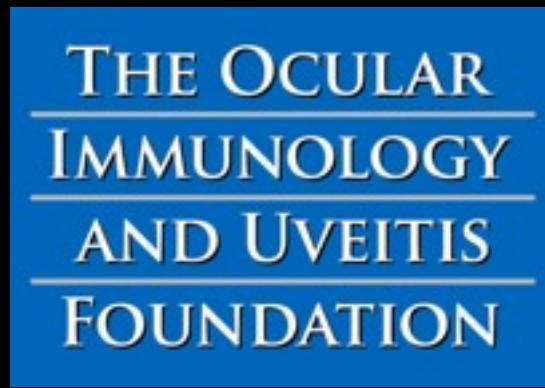


# CASE CONFERENCE

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María José Capella, MD

February 18th, 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

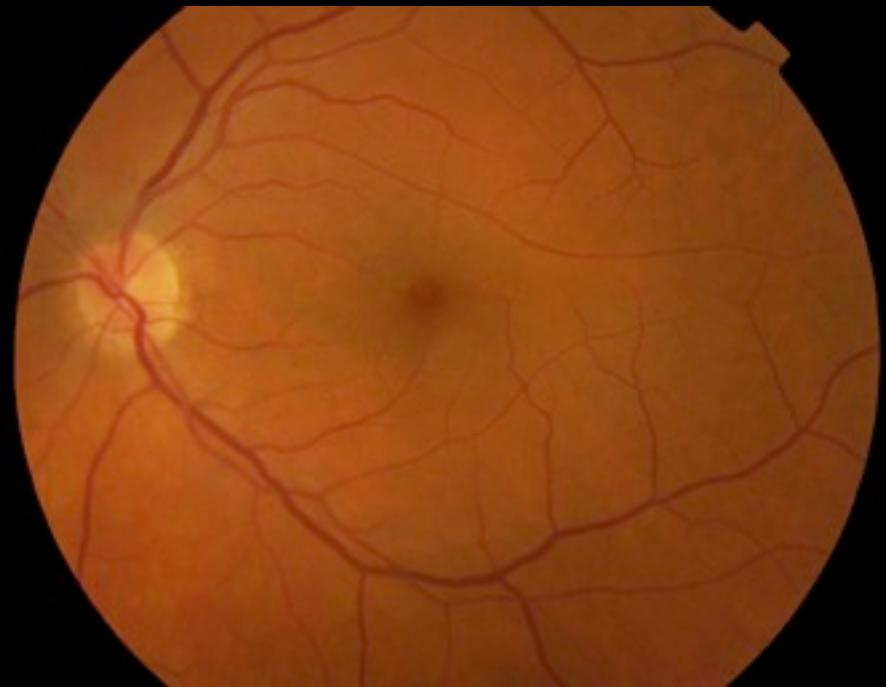
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**BCVA:**    OD = 20/25 +2 J 1 (*Metamorphopsia*)

OS = 20/20      J 1

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





VA = 20/25 +2



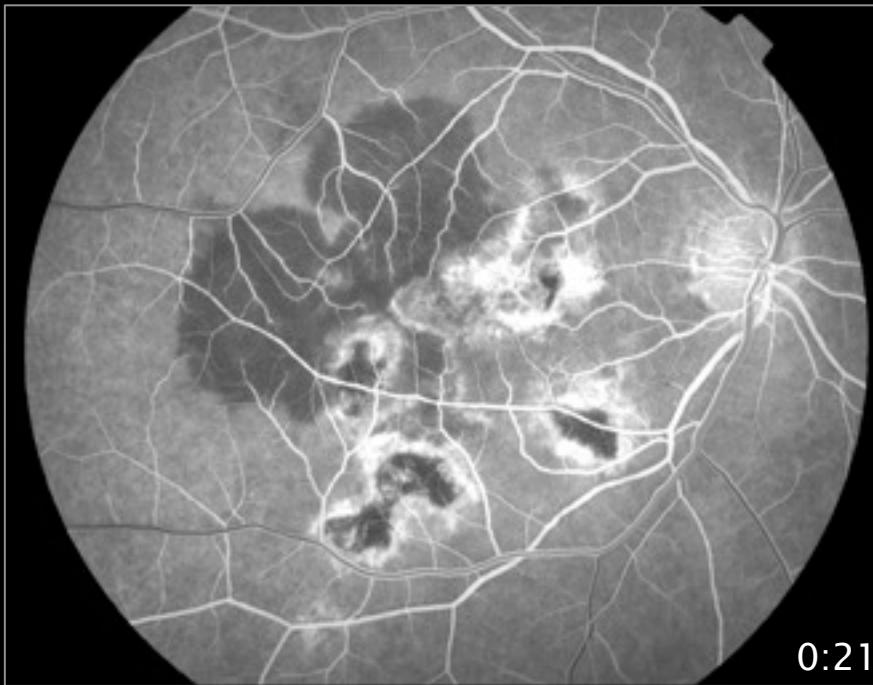
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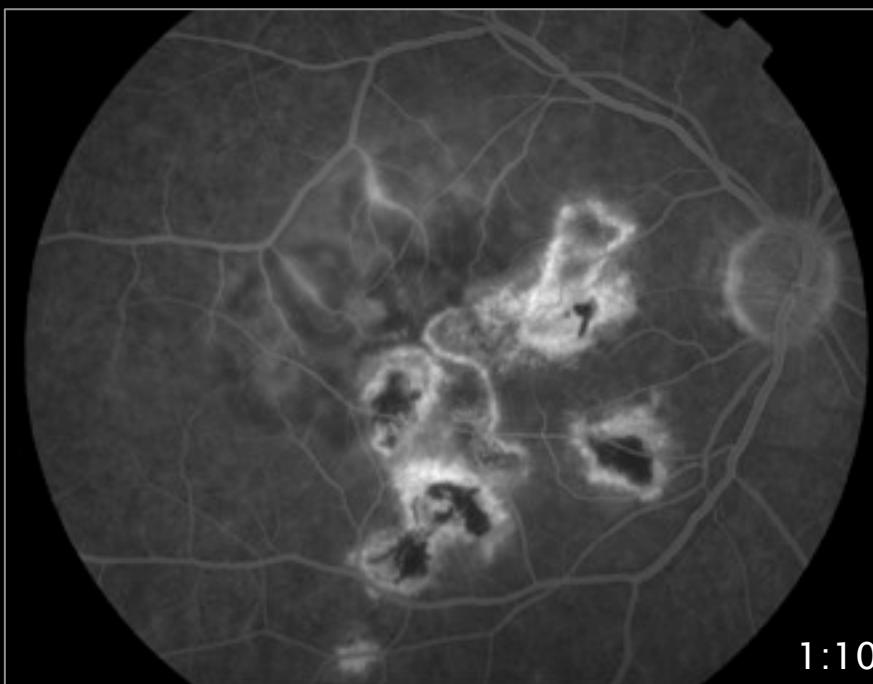
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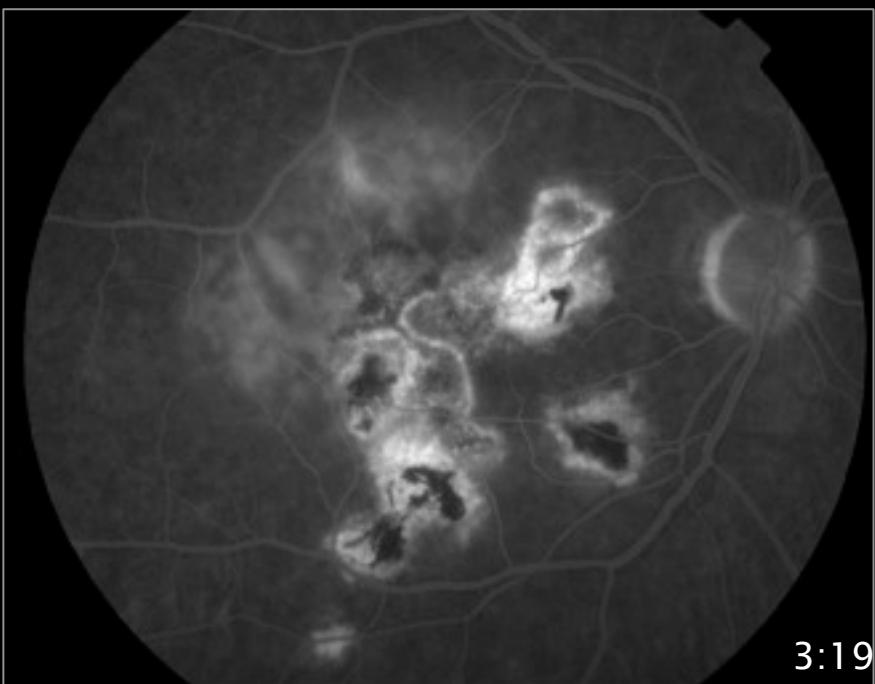
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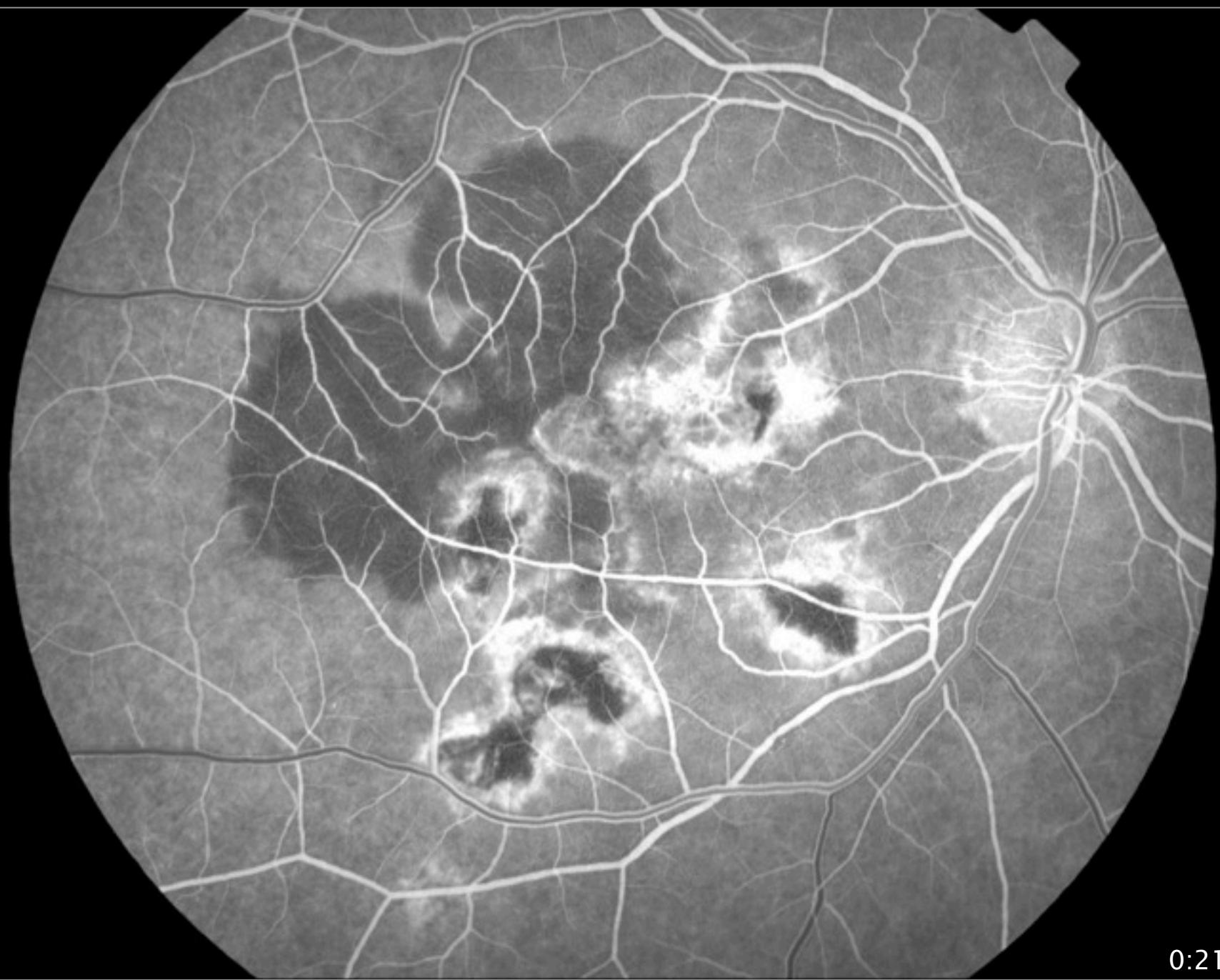
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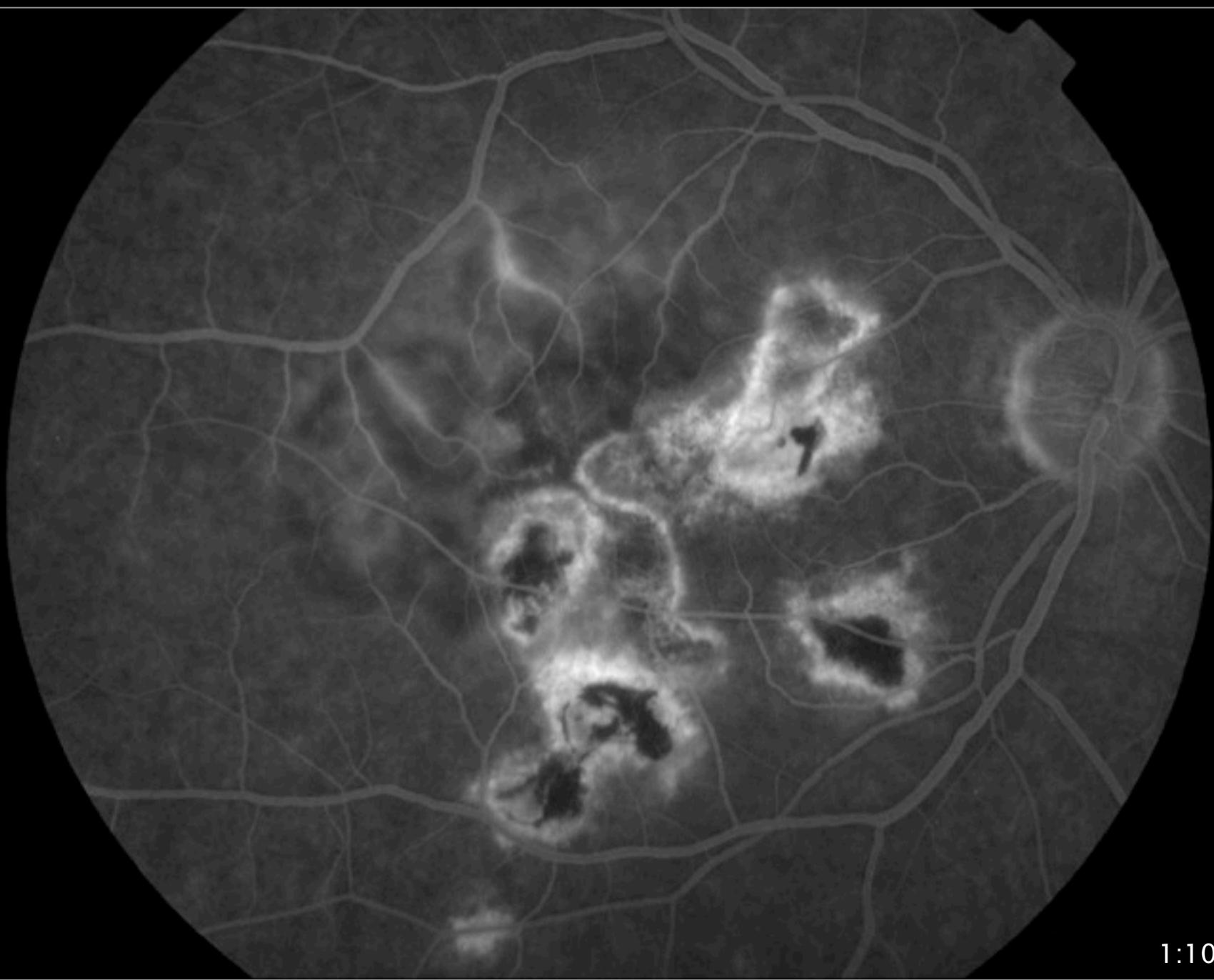
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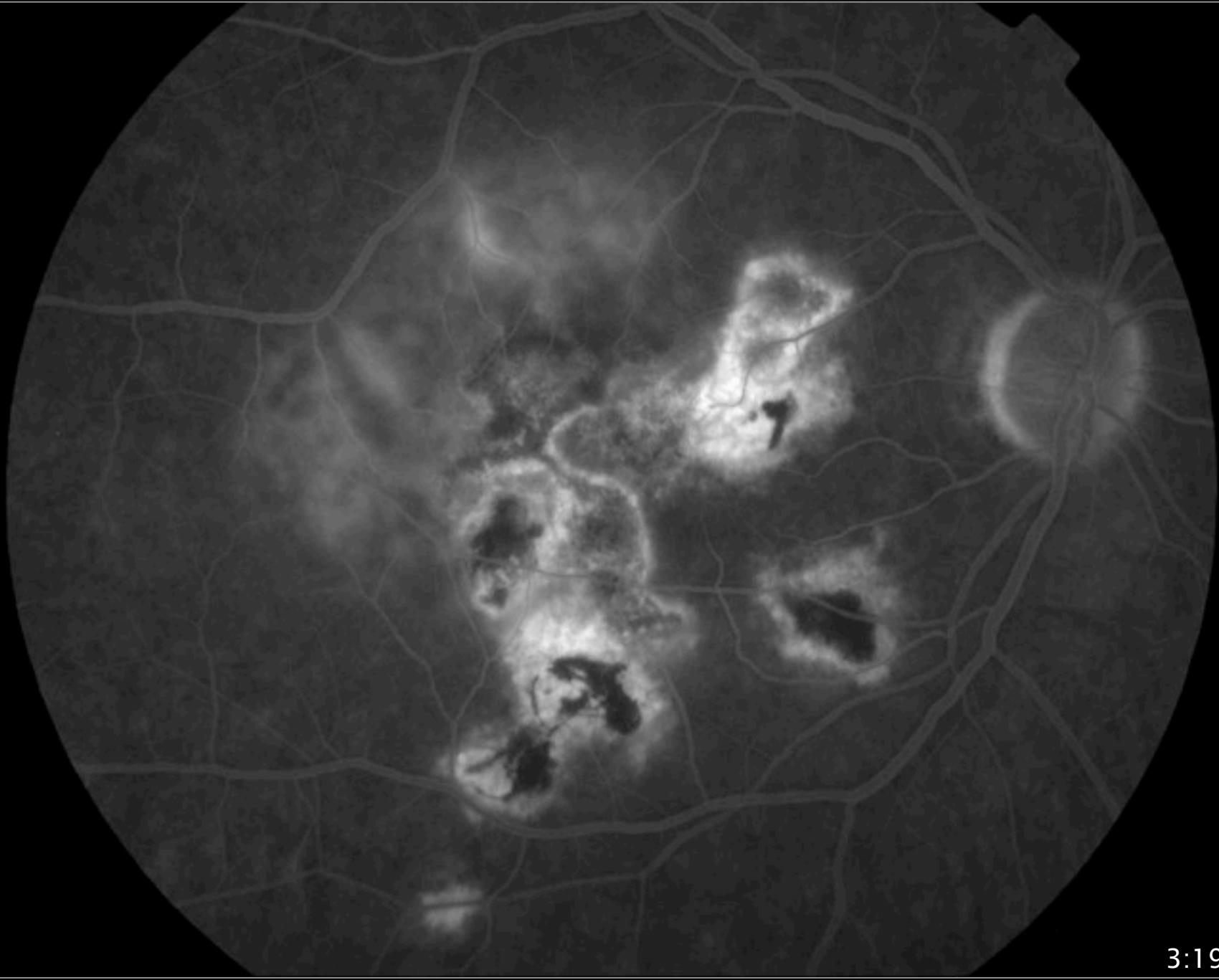
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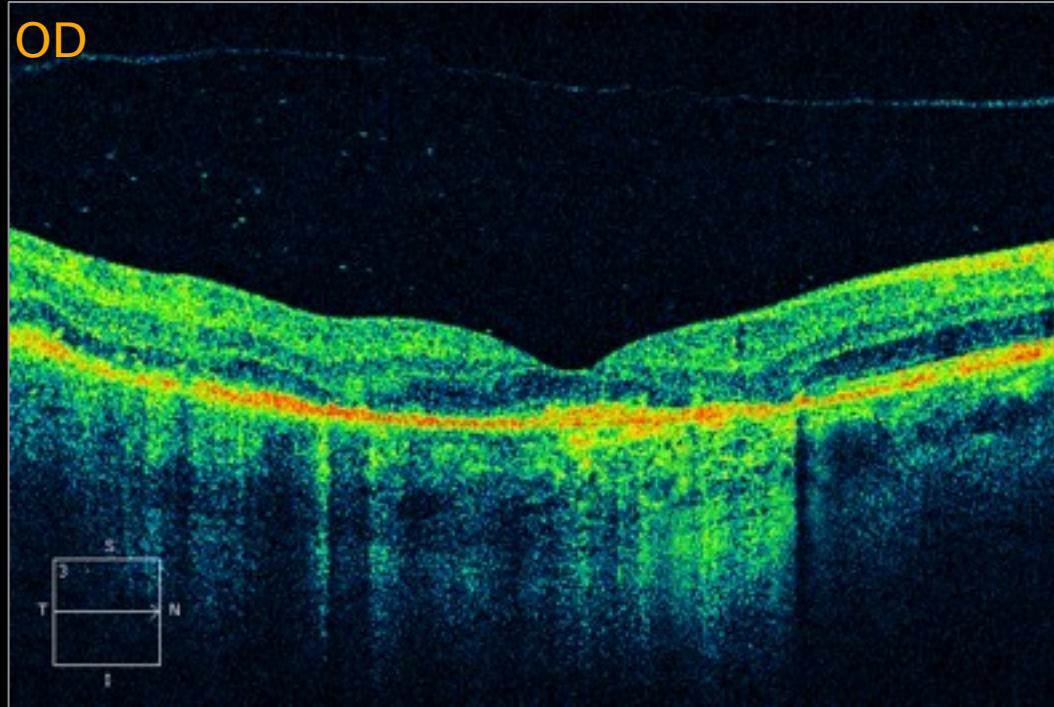


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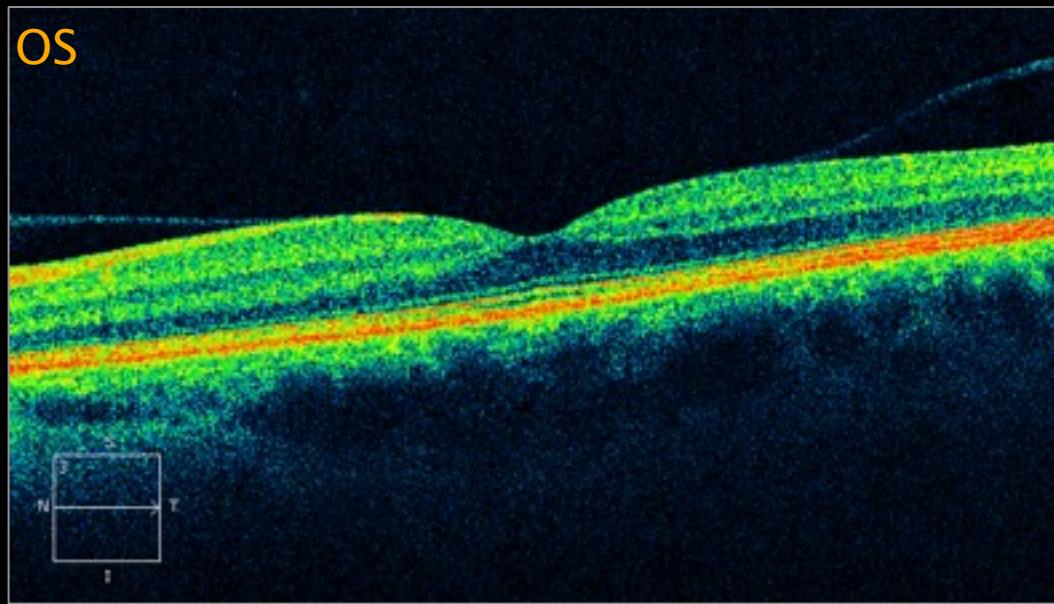


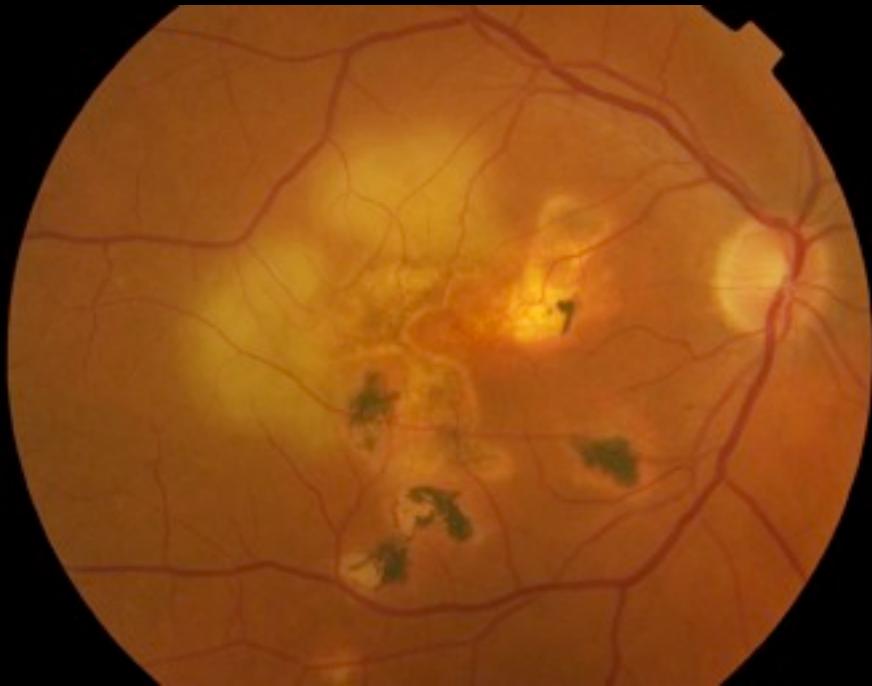
martes 22 de febrero de 2011

OD



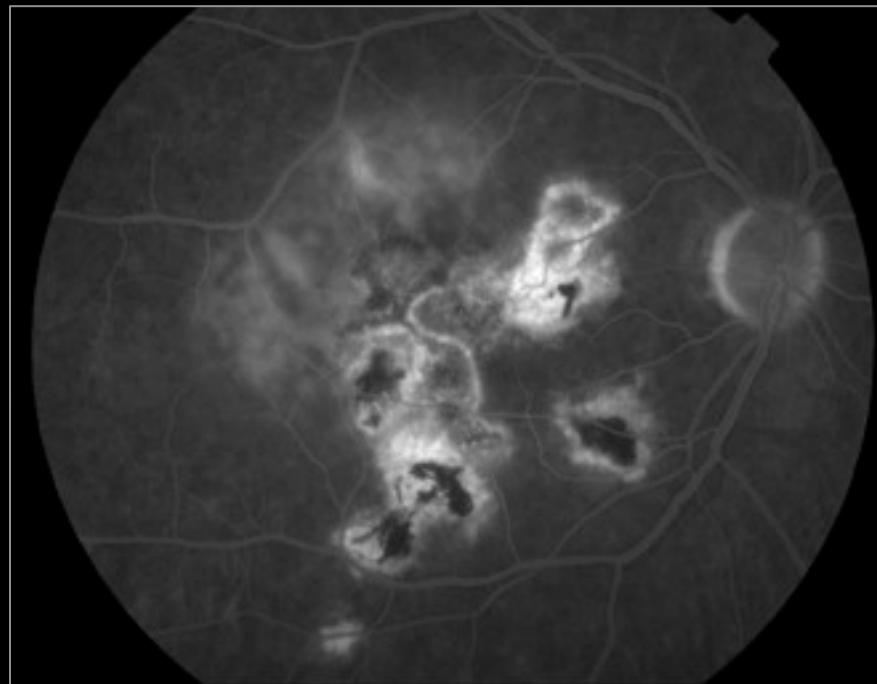
OS





# DIFFERENTIAL DIAGNOSIS

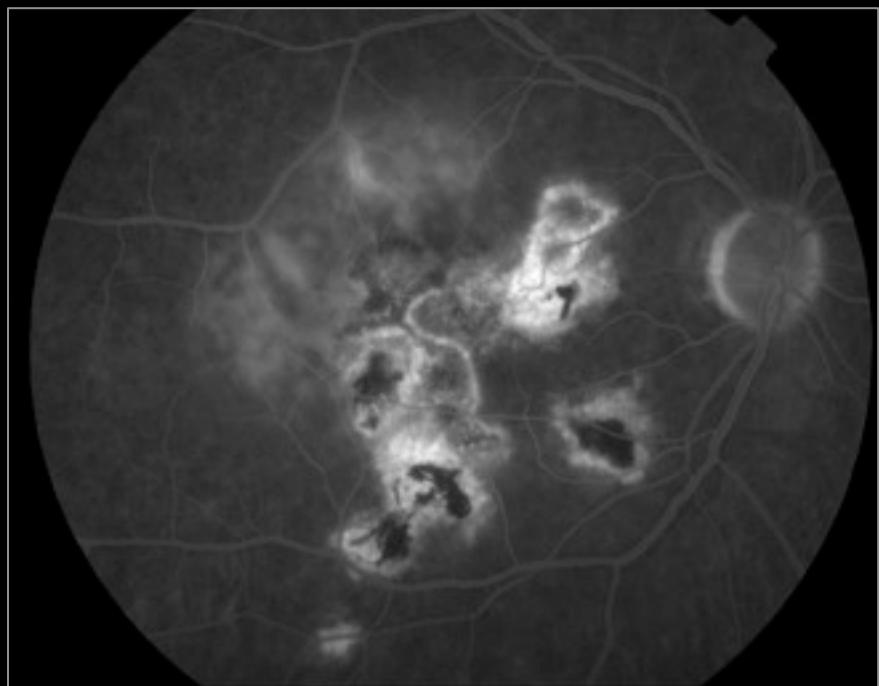
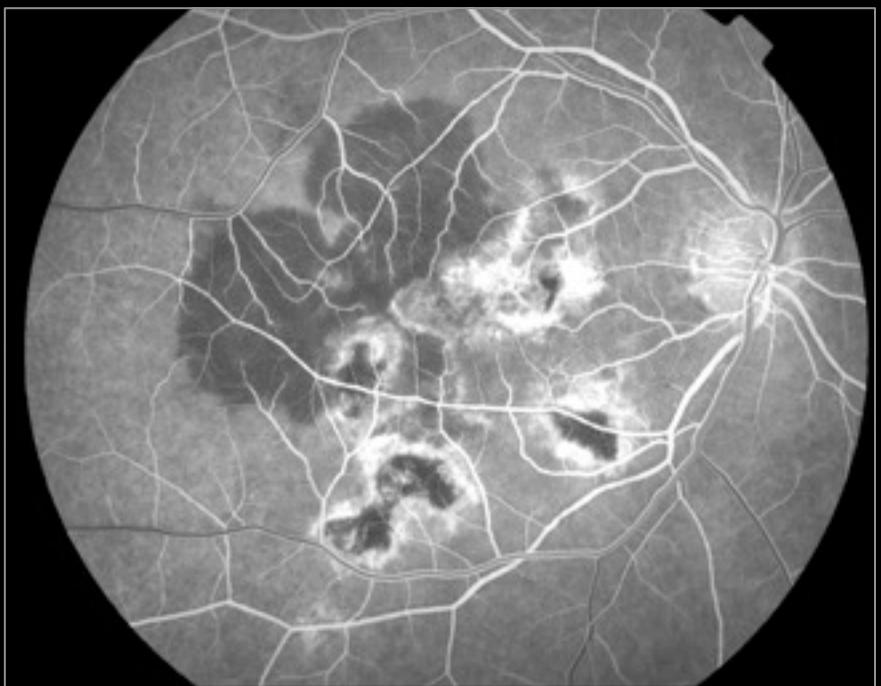
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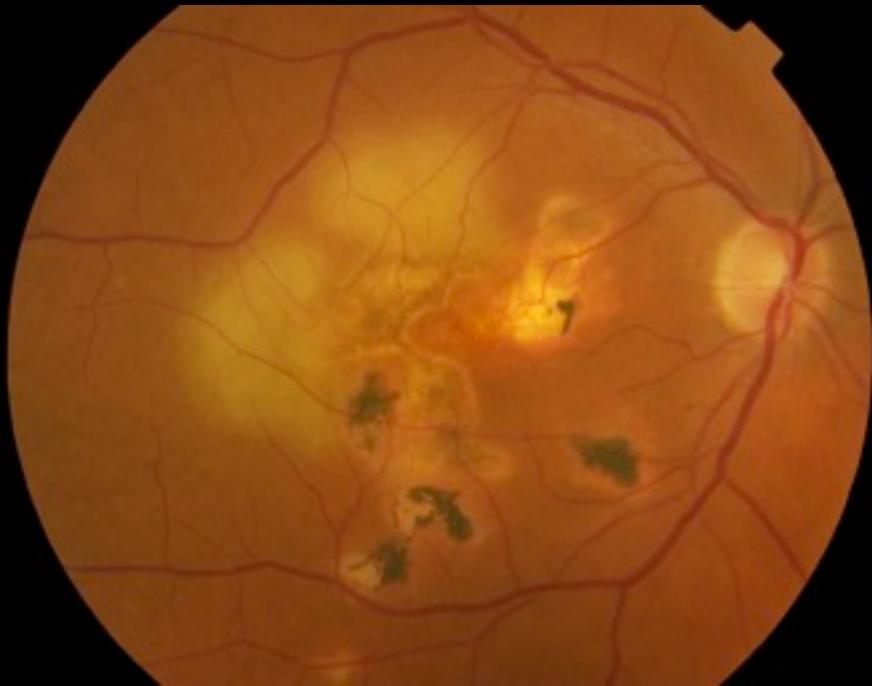




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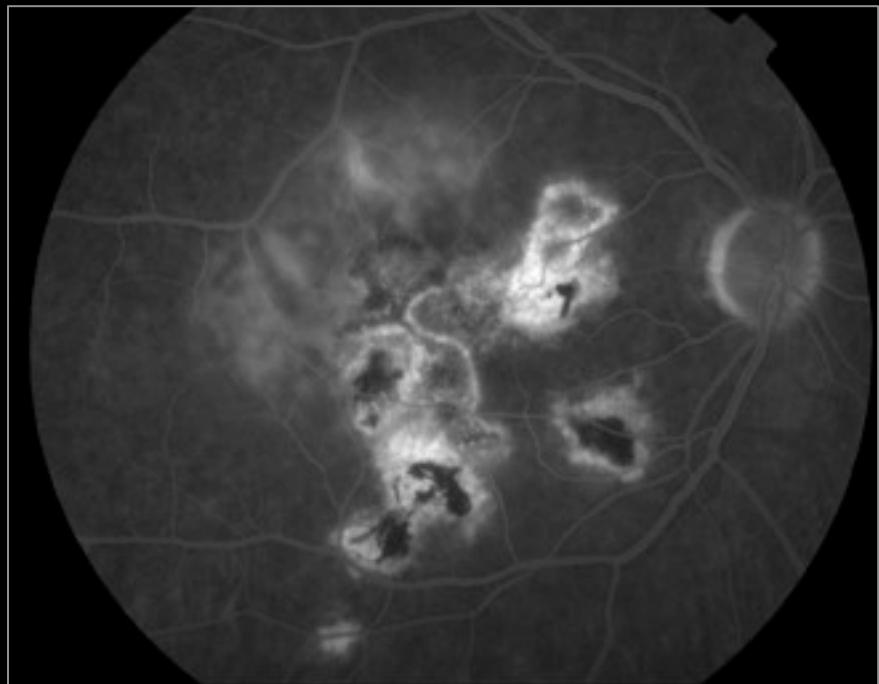
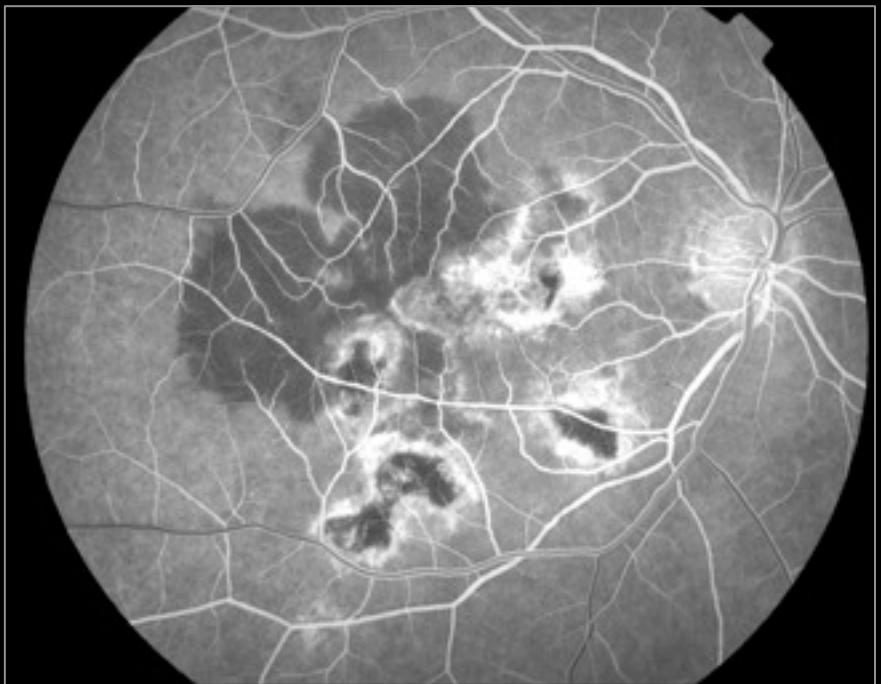
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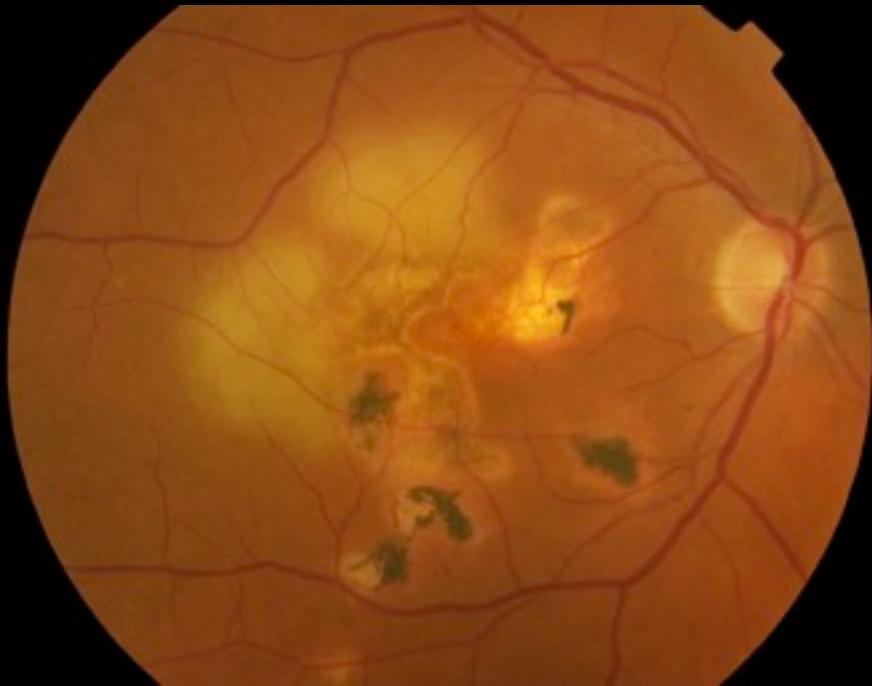




# DIFFERENTIAL DIAGNOSIS

AMPPE  
MACULAR SERPIGINOUS CHOROIDITIS





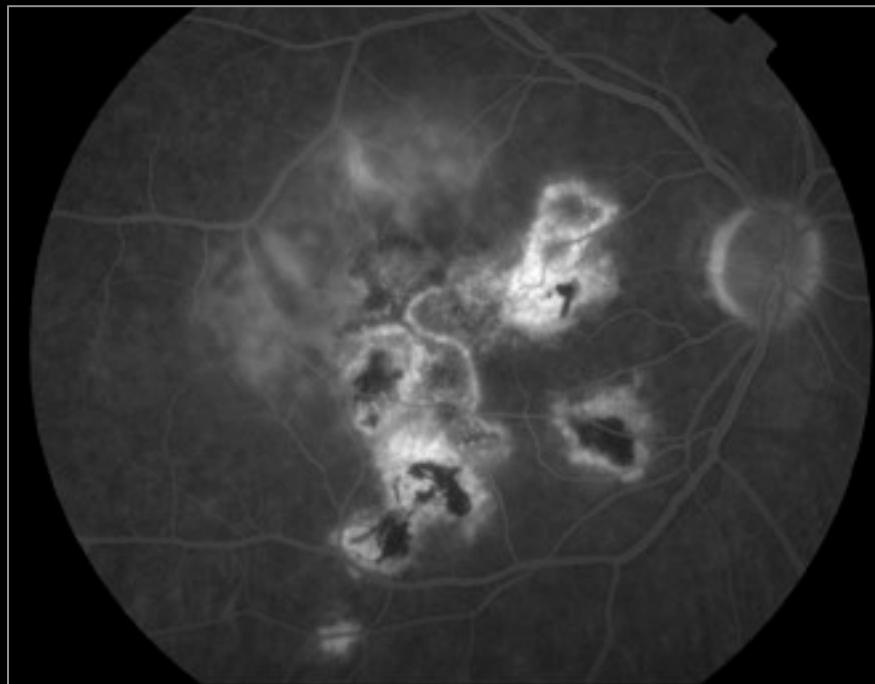
# DIFFERENTIAL DIAGNOSIS

AMPPE

MACULAR SERPIGINOUS CHOROIDITIS

INFECTIOUS CHOROIDITIS

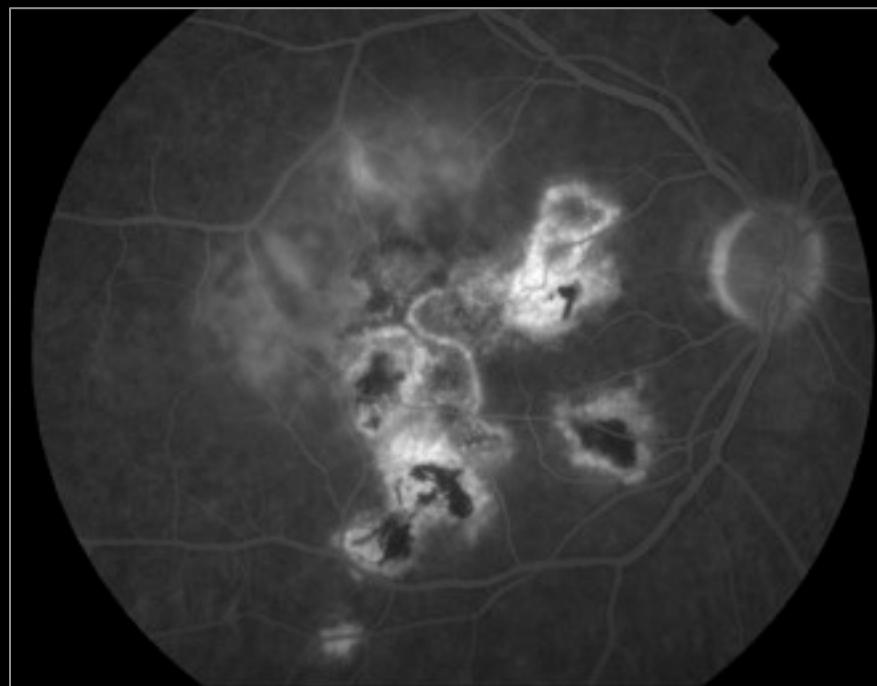
*Tuberculosis / Syphilis / Toxoplasma*

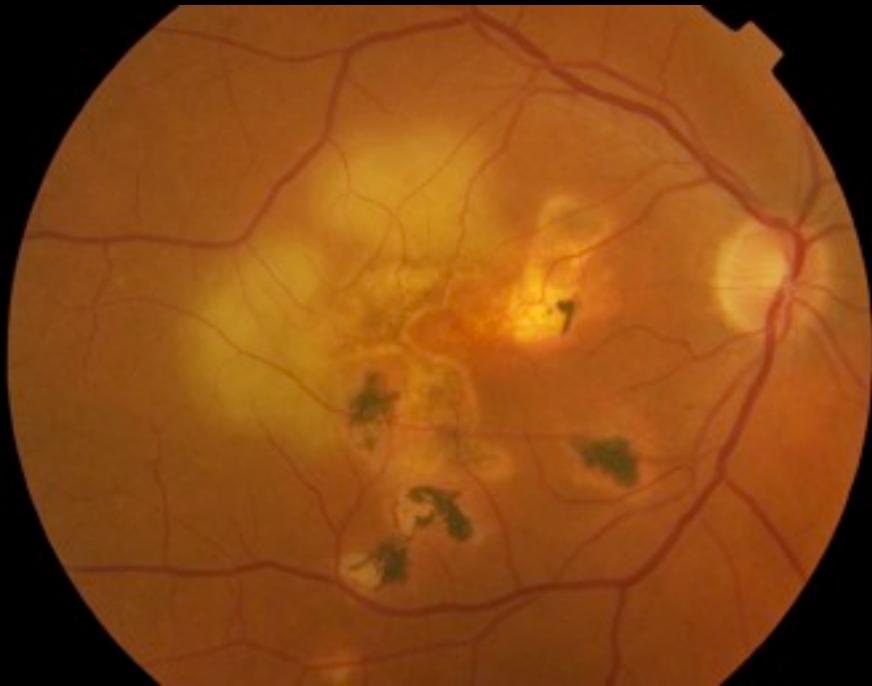




TREATMENT

?

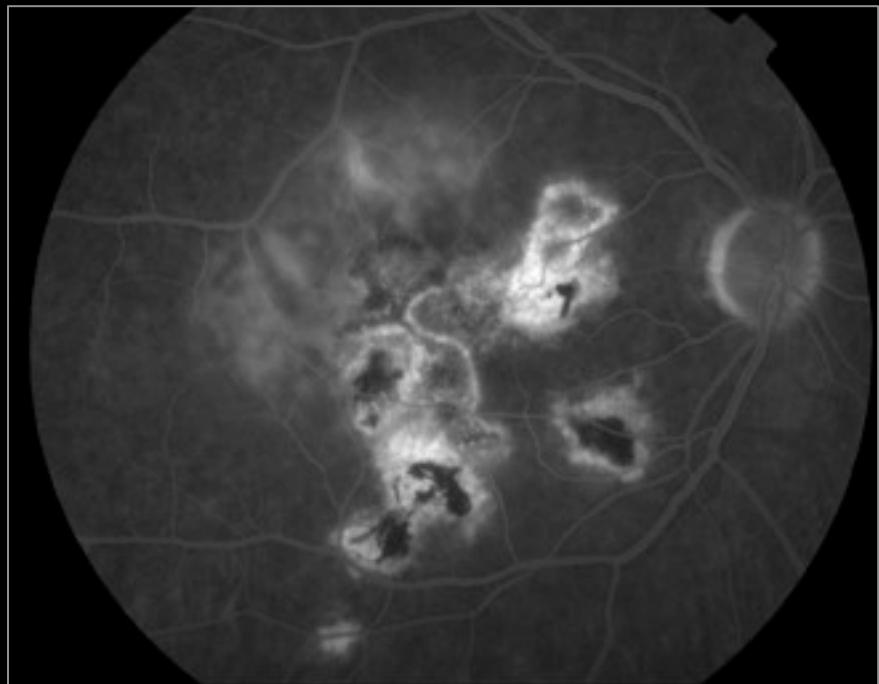
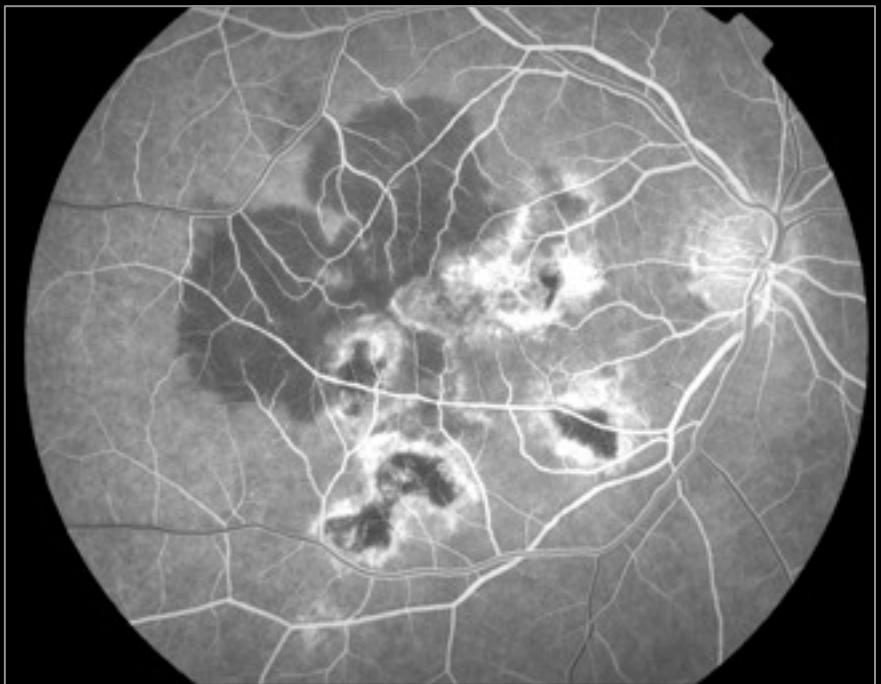




## TREATMENT

Prednisone PO 60 mg/day

*Tapering 10 mg/day every 10 days*



- CRP +
- RF +
- HLA B27 -
- HSV 1 and 2: IgG +
- CMV / EBV -
- HCV / HBV / HIV -
- Syphilis -
- **Toxoplasma:** IgM - / IgG +

- CRP +
- RF +
- HLA B27 -
- **PPD > 20 mm**
- HSV 1 and 2: IgG +
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- **Toxoplasma:** IgM - / IgG +



10 days



10 days



VA = 20/20 -1

**6 months**



VA = 20/25

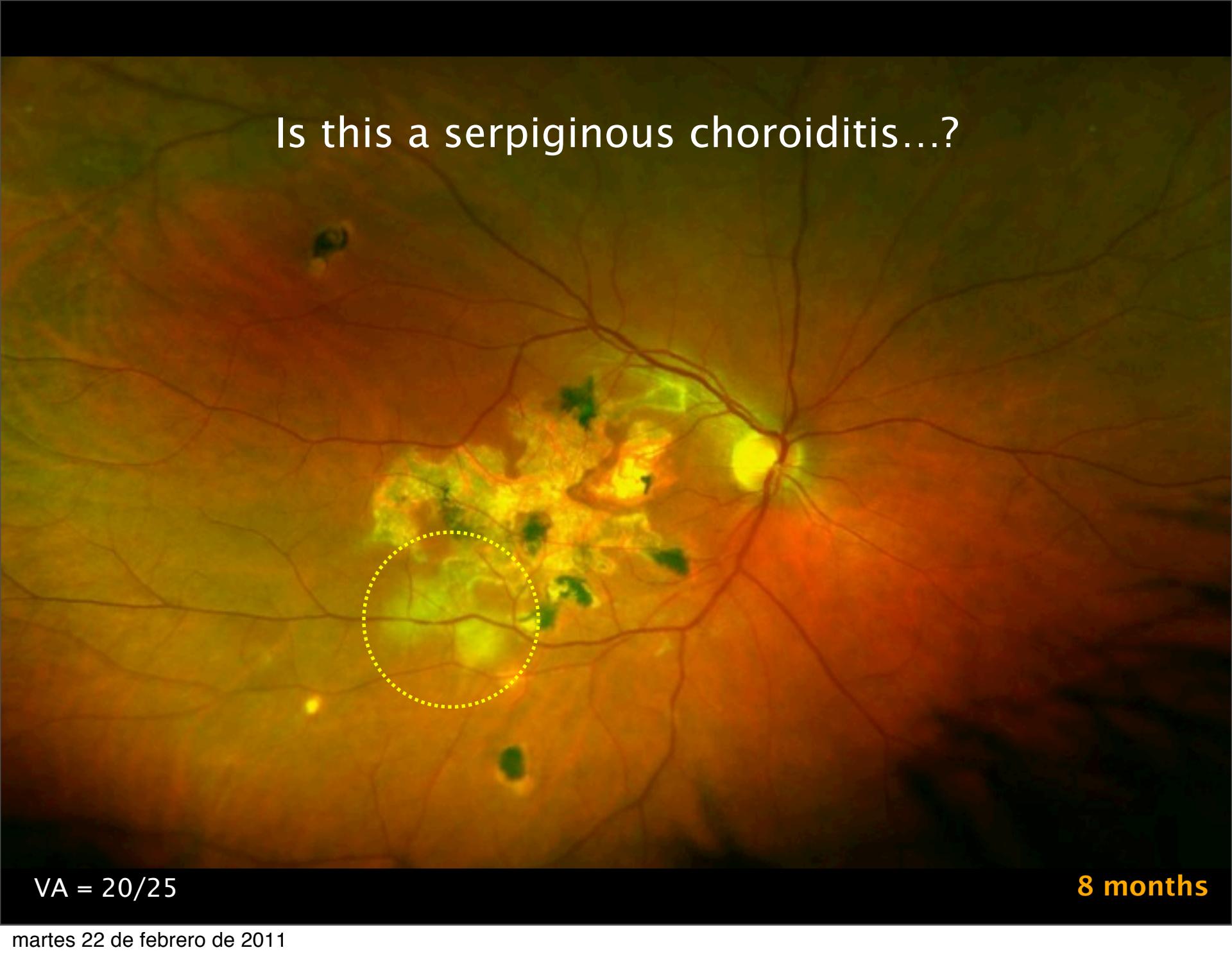
**8 months**



VA = 20/25

**8 months**

Is this a serpiginous choroiditis...?

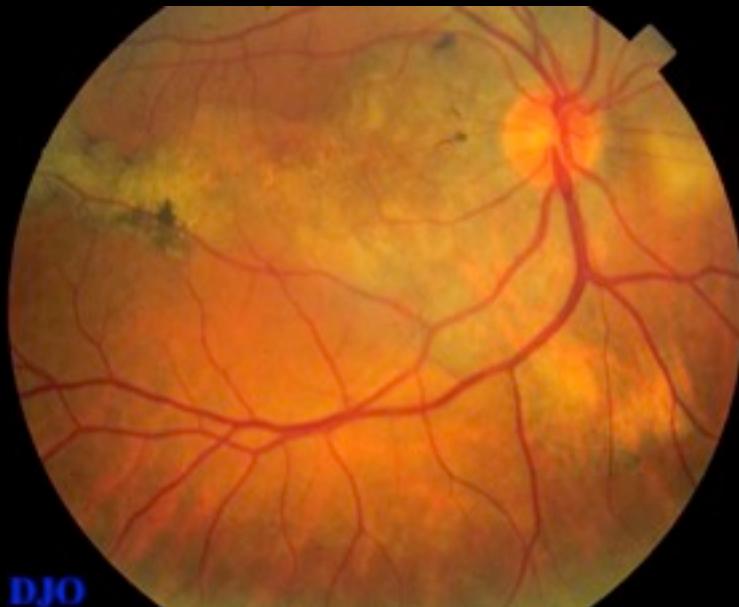


VA = 20/25

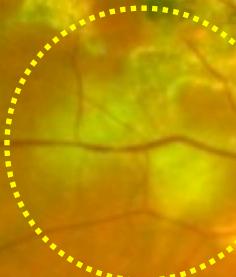
8 months

# SERPIGINOUS CHOROIDITIS

- ❖ Autoimmune disease      ❖ **CHRONIC AND RECURRENT INFLAMMATION**
- ❖ Males = Females            ❖ Beginning in the peripapillary region and spreading centrifugally
- ❖ 30 – 60 years old        ❖ May rarely affect exclusively the macula: **MACULAR SERPIGINOUS CHOROIDITIS**
- ❖ Bilateral, asymmetric     ❖ Treatment: Corticosteroids + IMT



Is this a serpiginous choroiditis...  
or...  
a TB serpiginous-like choroiditis...?

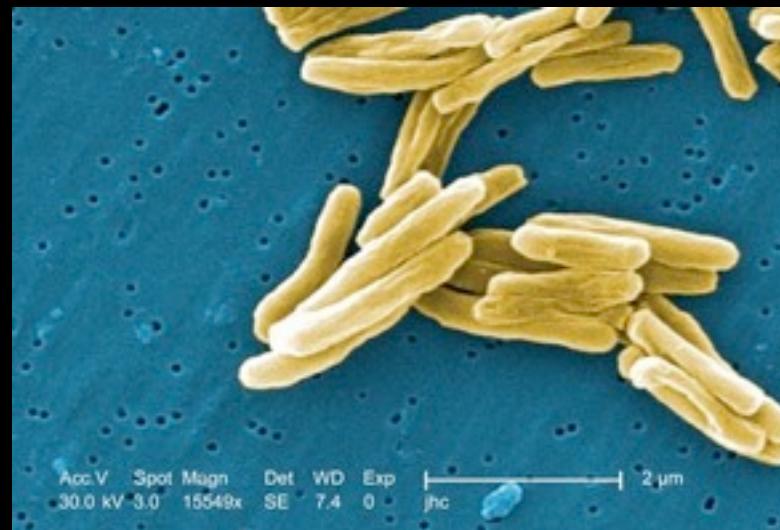


VA = 20/25

8 months

# TUBERCULOSIS

- ❖ 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



# INTRAOCULAR TUBERCULOSIS

TABLE 1

*Clinical Presentation in Intraocular Tuberculosis*

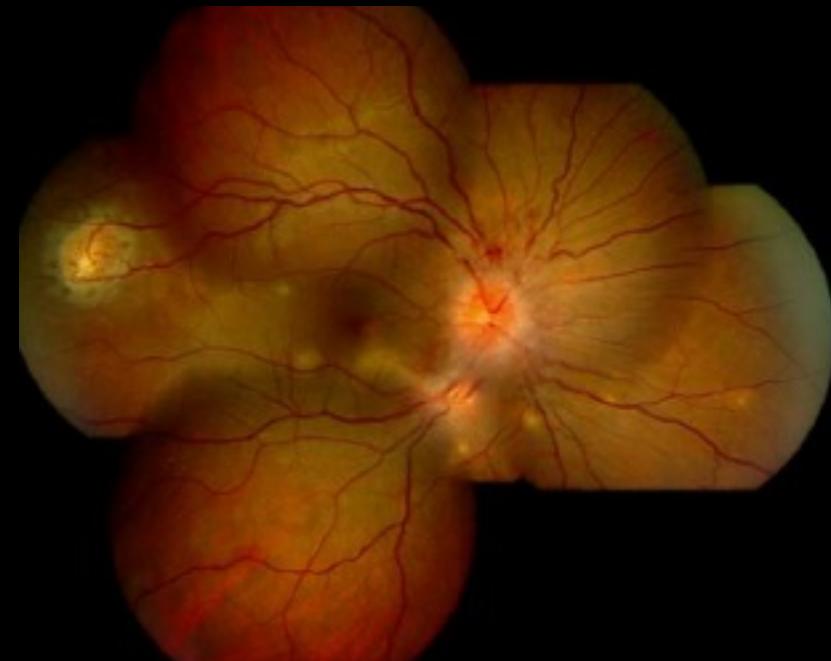
1. Anterior uveitis	Granulomatous, nongranulomatous, iris nodules, ciliary body tuberculoma
2. Intermediate uveitis	Granulomatous, nongranulomatous with organizing exudates in the pars plana/ peripheral uvea.
3. <u>Posterior and panuveitis</u>	Choroidal tubercle Choroidal tuberculoma Subretinal abscess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

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

# POSTERIOR UVEITIS

## A. CHOROIDAL TUBERCLES

- ❖ Most common manifestation of tubercular posterior uveitis
- ❖ Small nodules, grayish white to yellow, indistinct borders, mostly in the posterior pole,  $\leq 1/4$  DD
- ❖ Usually < 5 tubercles (there may be 50-60)
- ❖ Most eyes do not develop anterior segment or vitreous inflammation

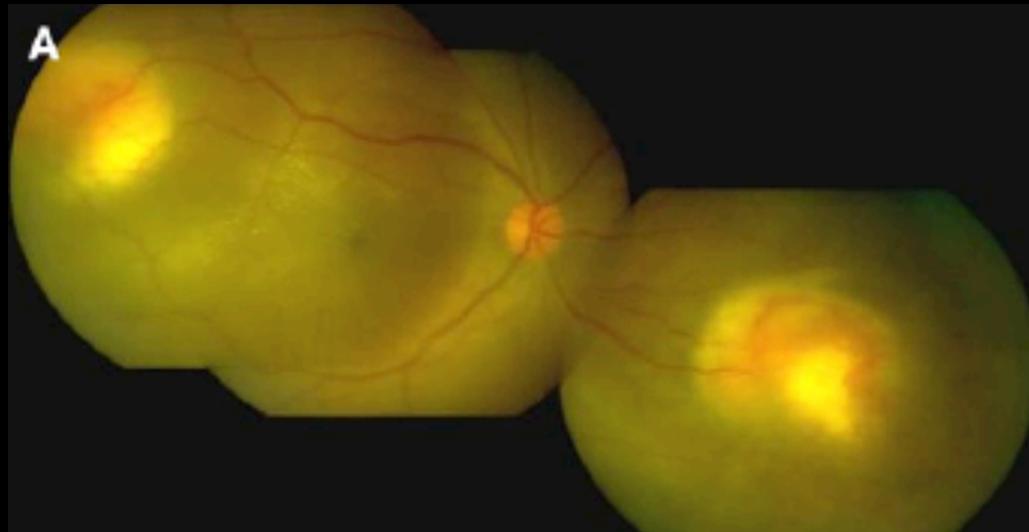


Gupta V, Gupta A, Rao NA. **Intraocular tuberculosis - an update.** *Surv Ophthalmol* 2007

# 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

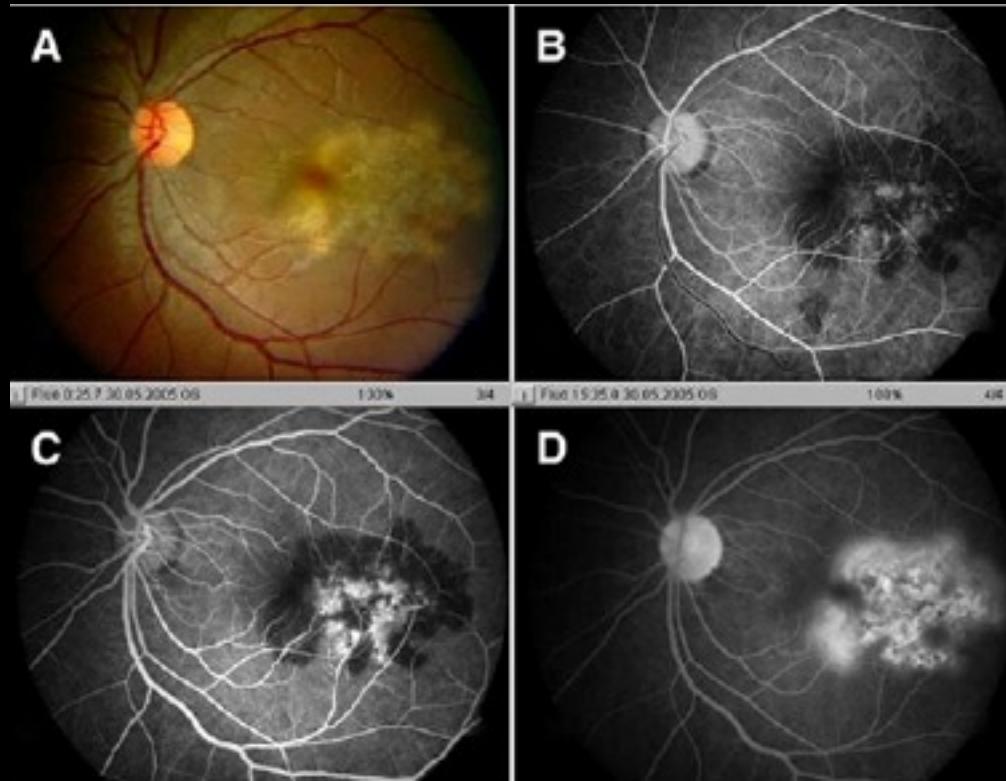


Gupta V, Gupta A, Rao NA. **Intraocular tuberculosis - an update.** *Surv Ophthalmol* 2007

# POSTERIOR UVEITIS

## 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 2<sup>nd</sup> eye may be affected months or years later
- ❖ Relentless progression despite systemic corticosteroids and IMT



Gupta V, Gupta A, Rao NA.  
**Intraocular tuberculosis - an update.** *Surv Ophthalmol* 2007

# Clinical Features of Tuberculous Serpiginouslike 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

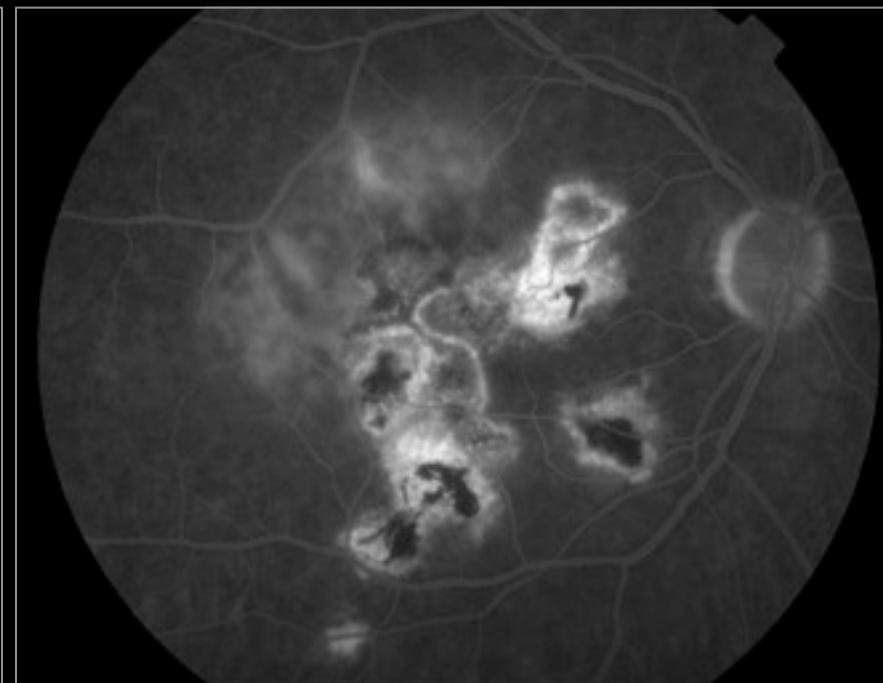
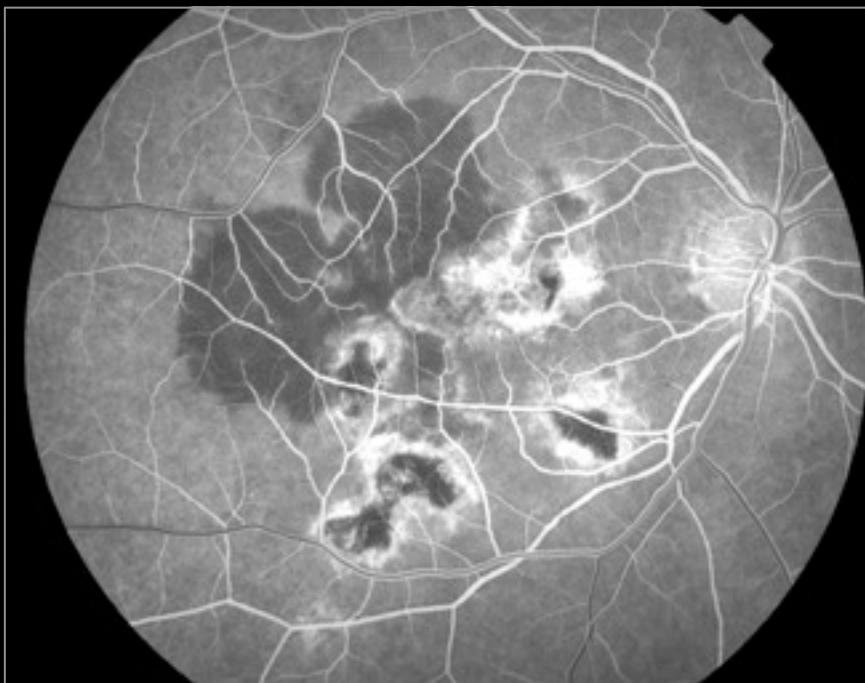
Arch Ophthalmol. 2010;128(7):853-858

TB Serpiginous-like Choroiditis	Classic Serpiginous Choroiditis
Inflammatory cells in the vitreous	No concomitant vitritis
Posterior pole/periphery (usually sparing the peripapillary area)	Peripapillary area spreading centrifugally
Asymmetric	Bilateral involvement more common
	

# OCULAR IMAGING STUDIES

## A. Fluorescein Angiography

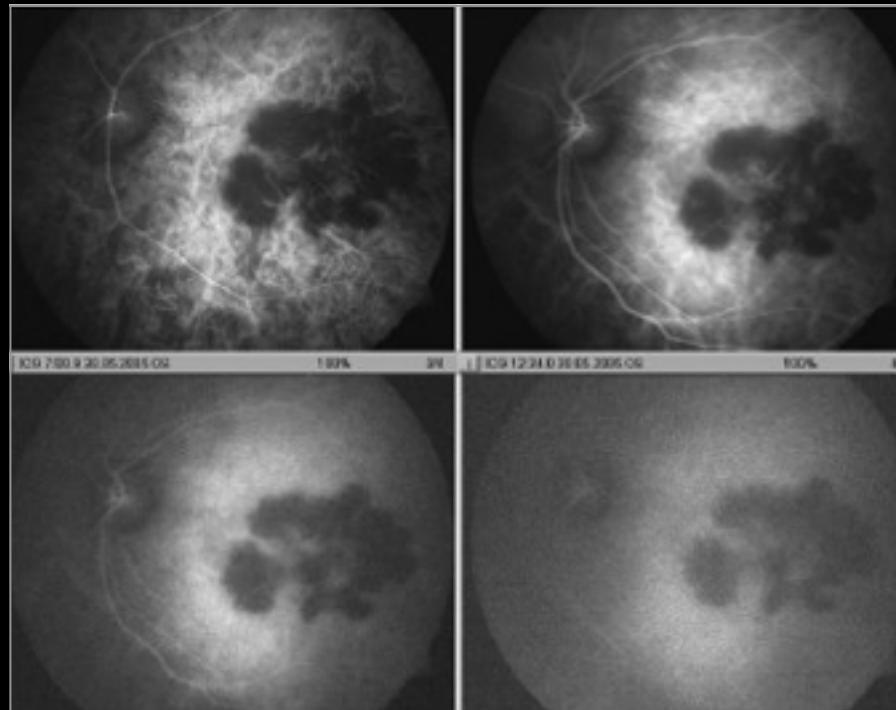
- ❖ Active lesions: initial hypofluorescence with late hyperfluorescence
- ❖ Healed lesions: transmission hyperfluorescence or blocked fluorescence due to overlying pigment epithelial proliferation.



# OCULAR IMAGING STUDIES

## 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



Gupta V, Gupta A, Rao NA. **Intraocular tuberculosis - an update.** *Surv Ophthalmol* 2007

# **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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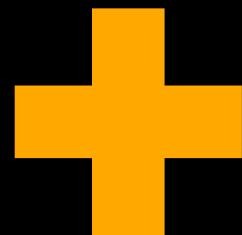
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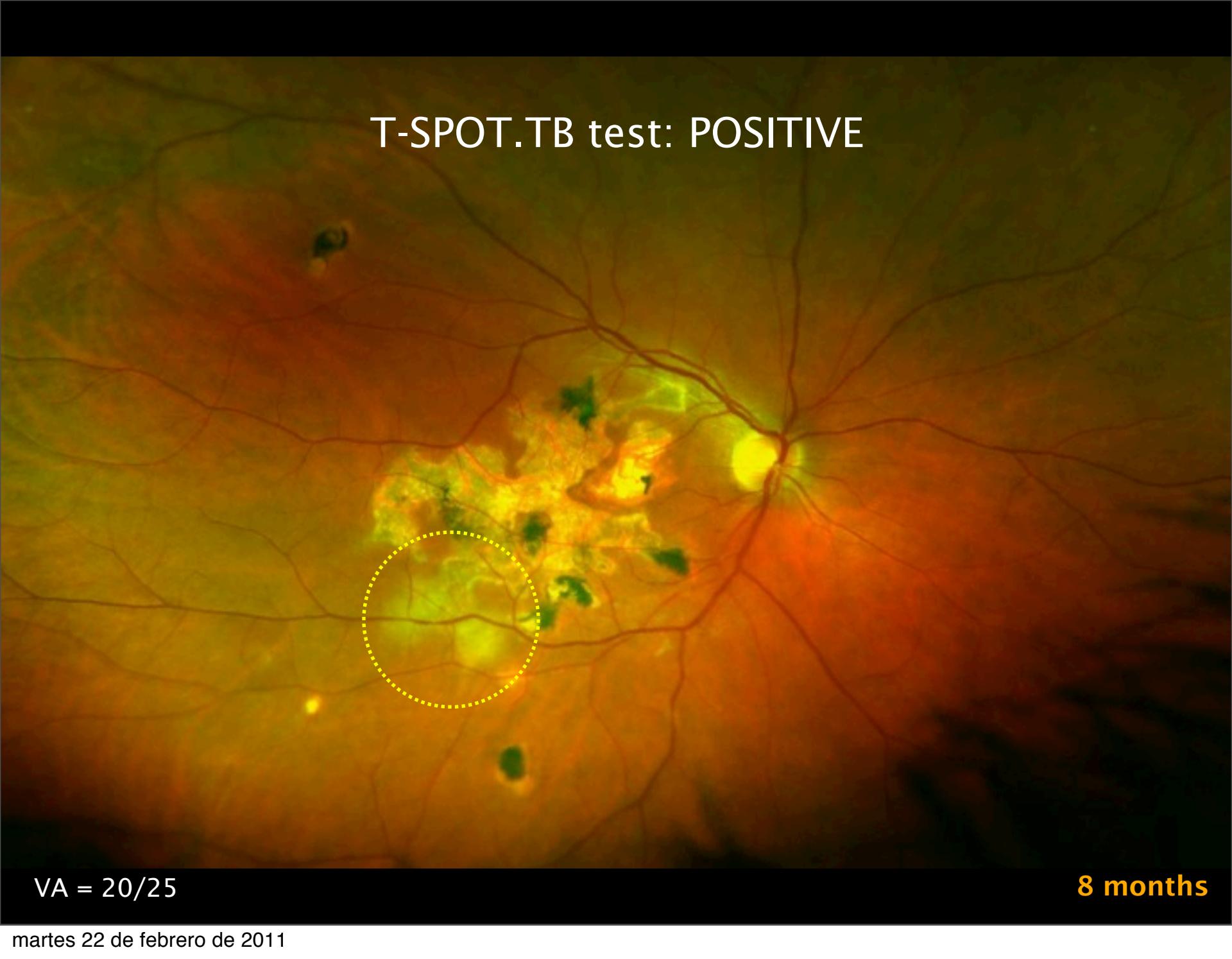
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PPD ++

**PRESUMED INTRAOCULAR TB**

T-SPOT.TB test: POSITIVE



VA = 20/25

8 months

# TREATMENT OF INTRAOCULAR TB

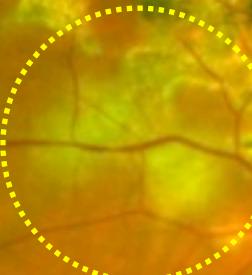
- ❖ 4 drugs ATT (isoniazid, rifampicin, pyrazinamide and ethambutol) for an initial 2-month period followed by a choice of different options over next 4-7 months (total of 6-9 months)
- ❖ ATT reduces the number of recurrences
- ❖ Concomitant use of systemic corticosteroids (to combat delayed HS)



T-SPOT.TB test: POSITIVE



ATT with 3 drugs x 9 months



VA = 20/25

8 months



VA = 20/25 +2

7 months after starting ATT

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



VA = 20/25 +2

7 months after starting ATT

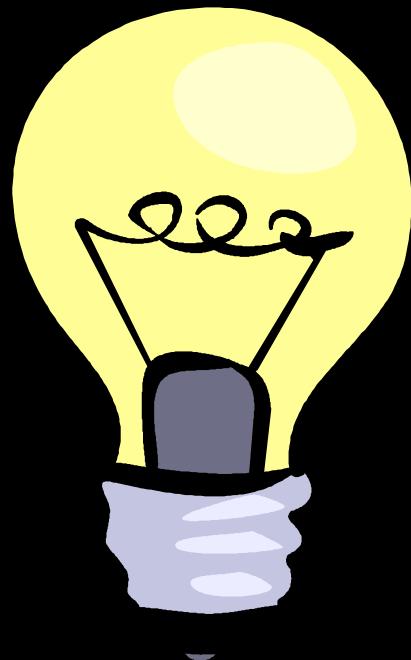


VA = 20/20

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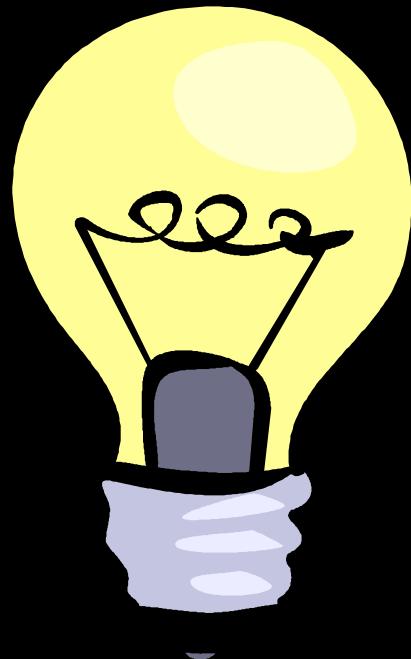
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- ❖ Infections must always be kept in mind
  
- ❖ Intraocular TB may present with features simulating SC
  
- ❖ Tuberculous Serpiginous-like Choroiditis is a rare entity and may occur without concomitant pulmonary involvement

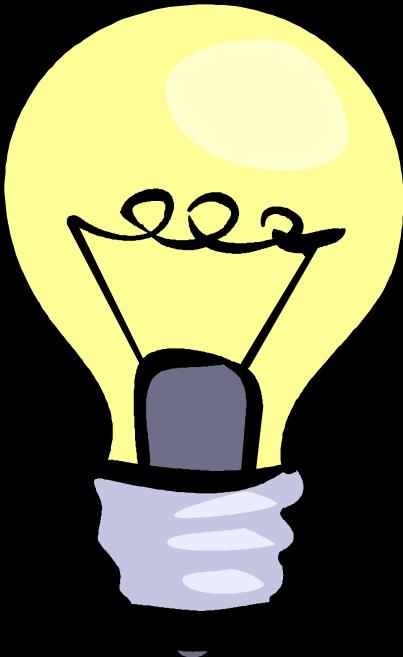


# CONCLUSIONS

- ❖ 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)



# CONCLUSIONS

- 
- ❖ 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*