Treatment of Uveitis with Immunosuppressives and Biologics

EOS 2025

Emirates Society of Ophthalmology
جمعية الإمارات لطب وجراحة العيون

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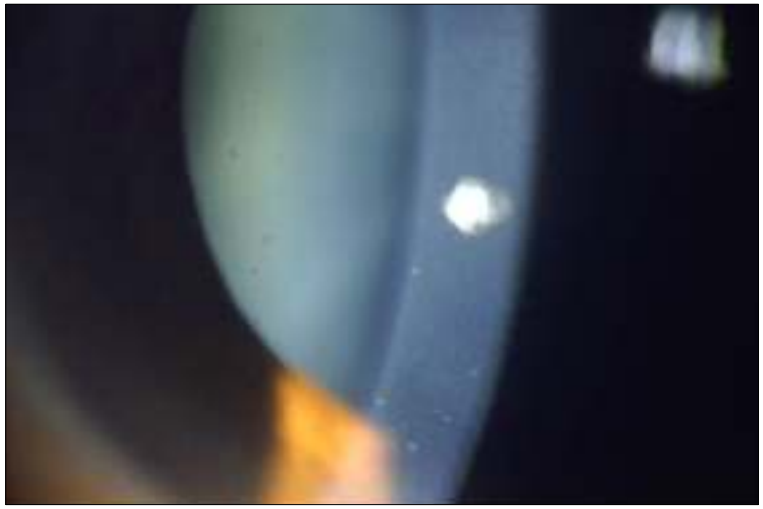
Conflicts of Interest: None

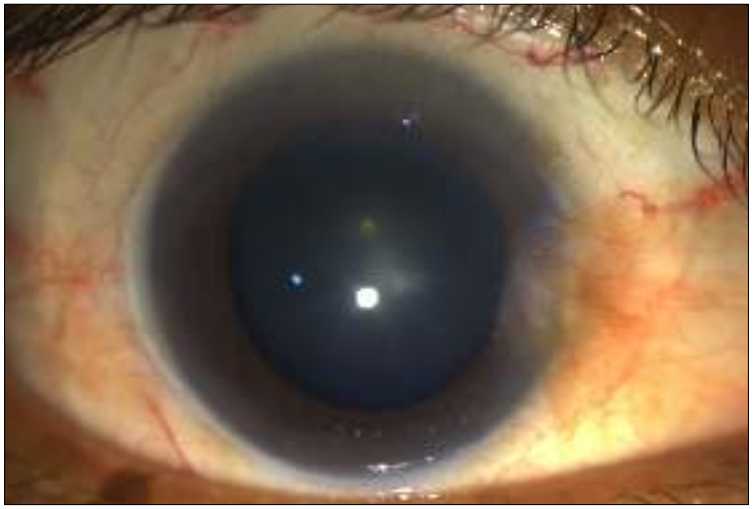
Six Principles of Immunosuppressive Therapies

1. **Phenotypic** presentations of uveitis
2. When and **which** IMT can I start
3. When should I **NOT** start IMT
4. I suspect **infection**, can I start IMT?
5. **Biological** therapies: when and where?
6. What **to do** when on IMT

Phenotypic Presentations of Uveitis

Acute Granulomatous Uveitis – suspect VIRAL

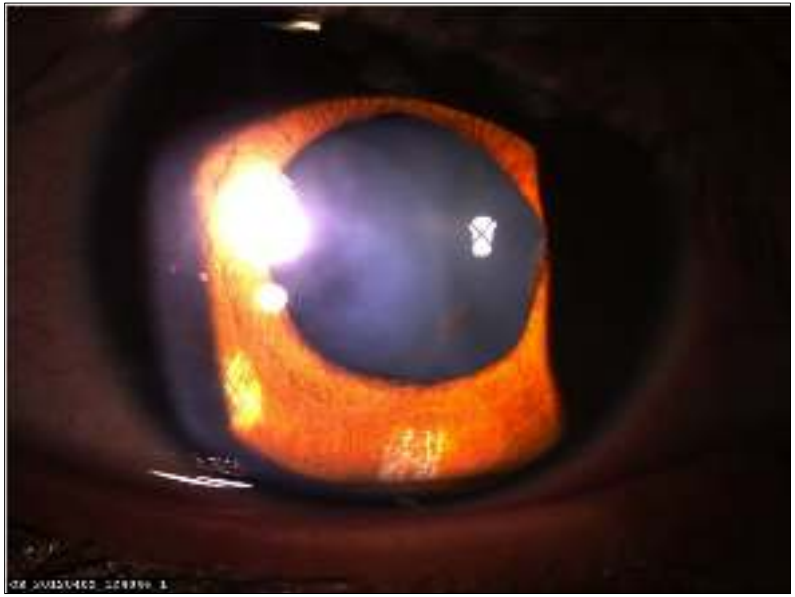


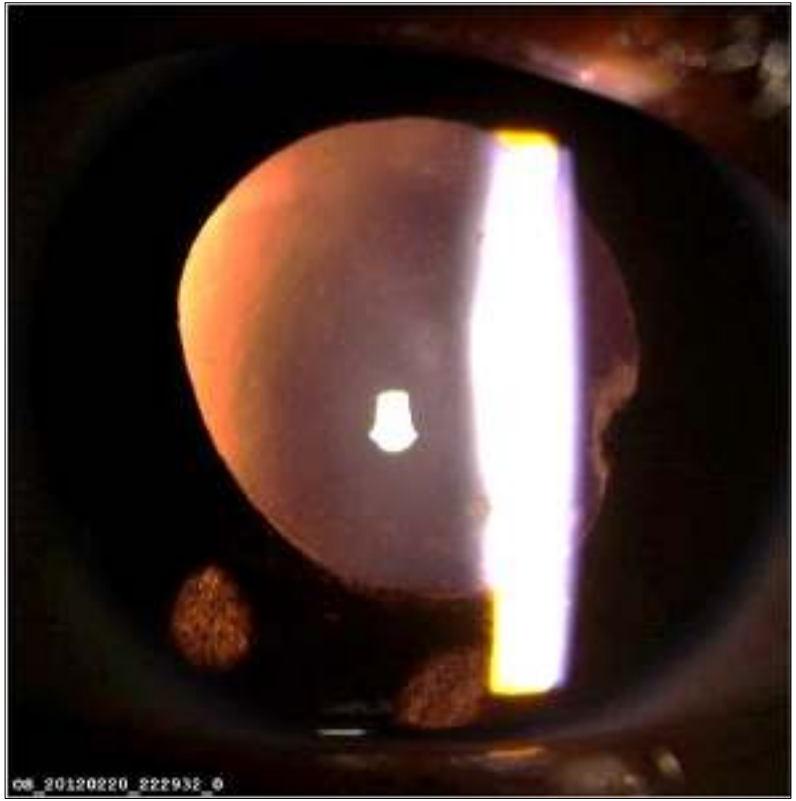


45-year-old lady with VA: 6/24, IOP: 42 mm Hg and unilateral involvement

Iris Involvement in HSV

Endotheliitis +

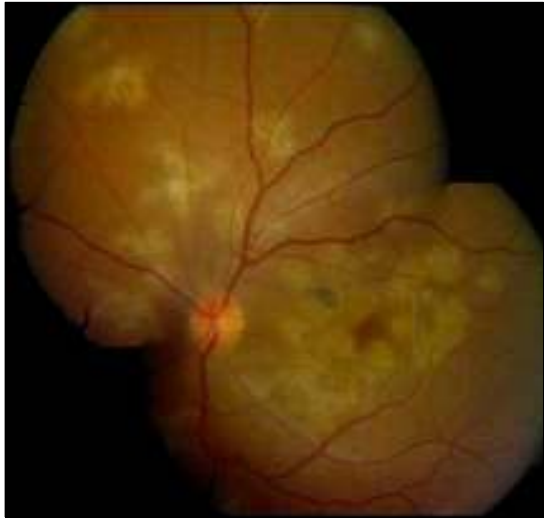


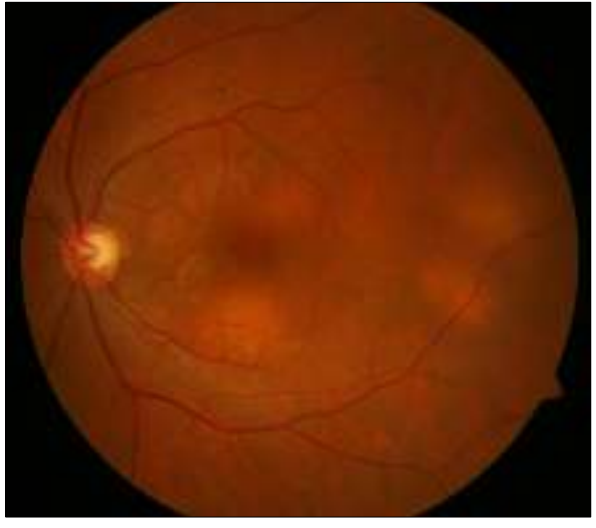


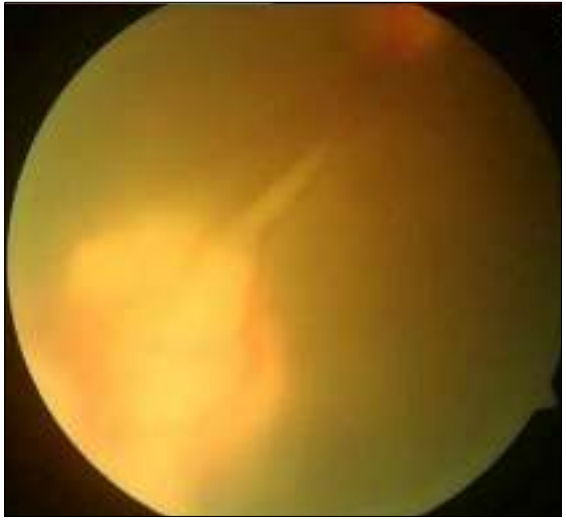
Dawnson CR, et al. Surv Ophthalmol 1976; 21:121-35.
Wensing B, et al. Ophthalmology 2011; 118:1905-10.

Intraocular TB: Clinical manifestations

1. Anterior uveitis
2. Intermediate uveitis
3. Retinal vasculitis
4. Choroiditis
   a. Tubercles
   b. Tubercular granuloma
   c. Subretinal abscess
   d. Multifocal choroiditis







When and Which IMT to Use?

Main IMTs available

- **Methotrexate: (start at 10-15 mg/week)**
  - Sarcoid and scleritis
  - Chronic anterior uveitis
  - Children with JIA
  - Avoid in young women
  - 2nd line for multifocal choroiditis/panuveitis

- **Mycophenolate mofetil (MMF) (start 500 gm/day – go up to 2 gm/day)**
  - I use it 1st/2nd line in choroiditis, VKH, chronic anterior uveitis
  - White dot syndromes

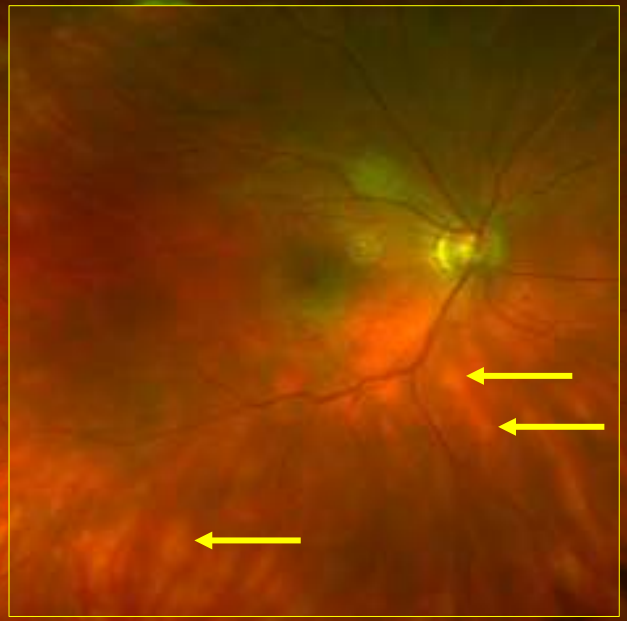
Main IMTs available

- **Azathioprine: (start at 50mg/day – go up to 150-200 mg/day)**
  - 1st/2nd line agent
  - White dot syndrome
  - Choroiditis, VKH, chronic anterior uveitis
  - Panuveitis
  - Intraocular tuberculosis

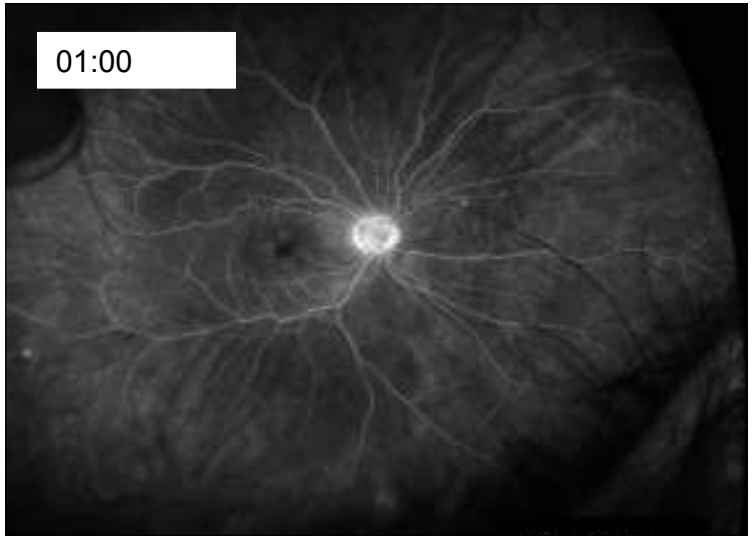
- **Cyclosporine (start 50 mg/day – go up to 100 mg/day)**
  - Patients with Behcet's disease (2nd line agent)
  - Choroiditis

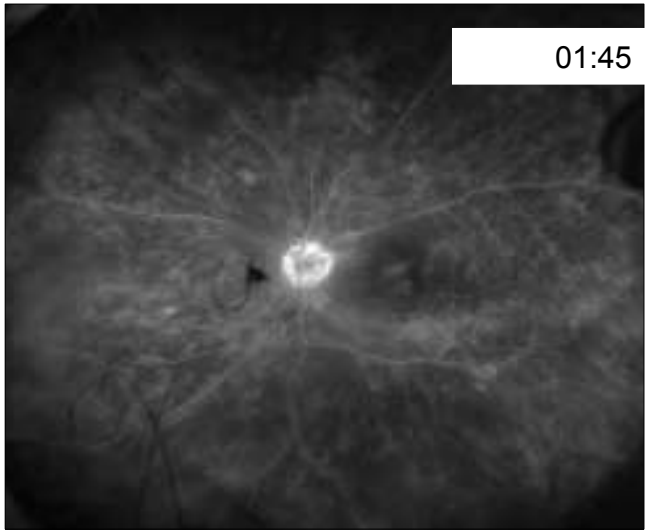
Presentation

35 yo Caucasian Woman with Metamorphopsia



VA: 20/30 OD and 20/40 OS





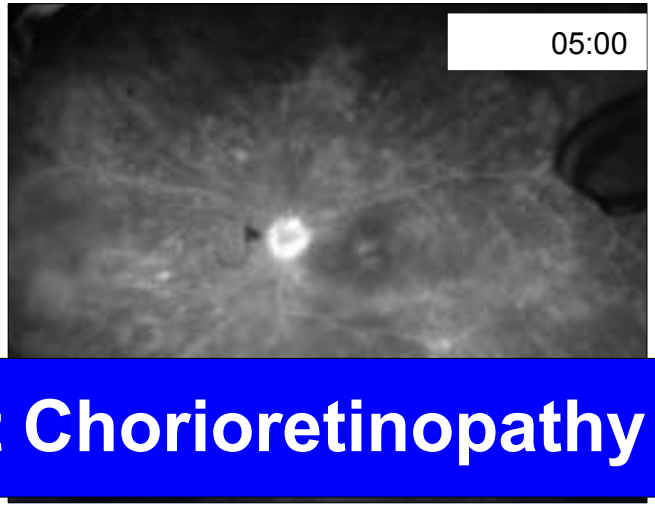
Management Issues:

Bilateral vision threatening disease

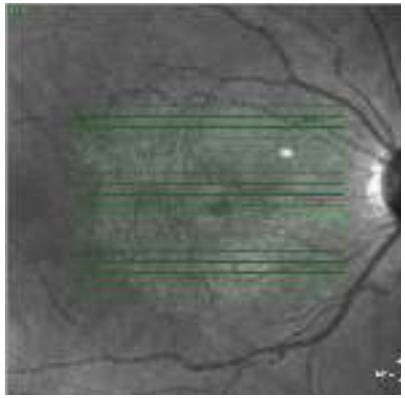
Developed glaucoma with local therapy OU

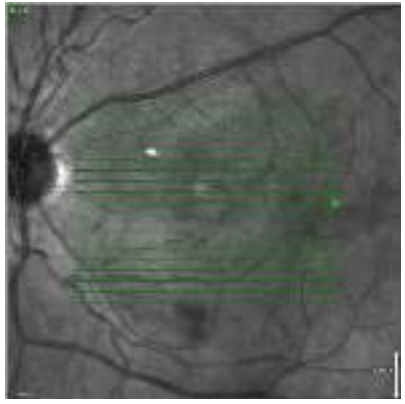
Did not tolerate steroids at 4 weeks of initiation

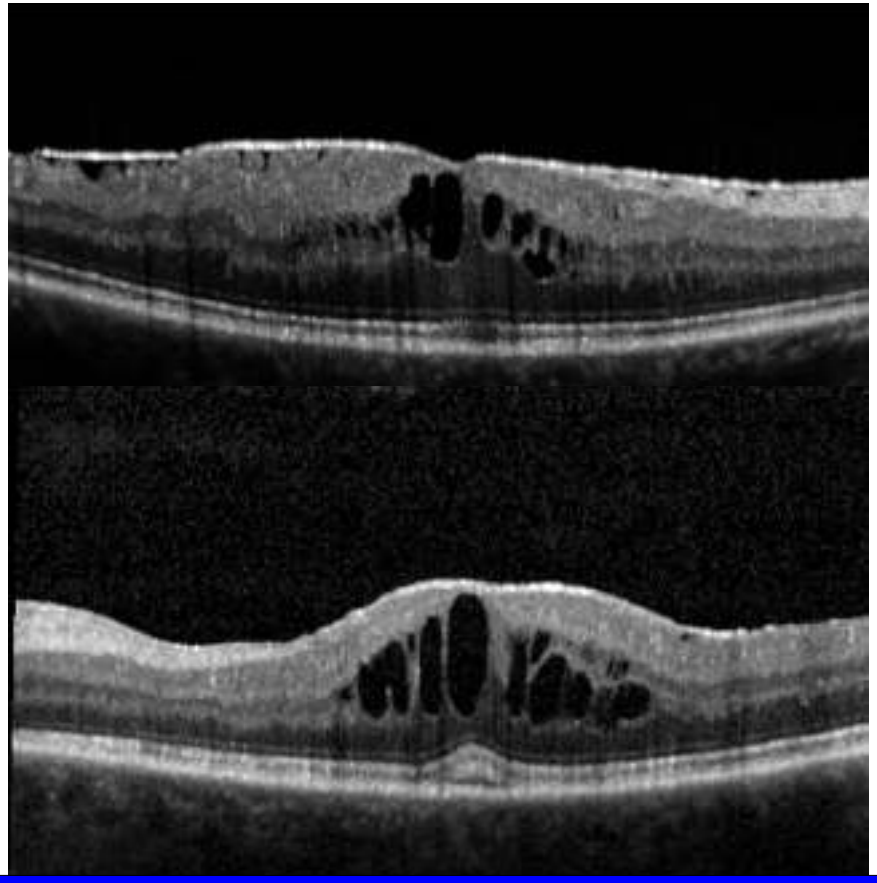
Needs alternative therapy

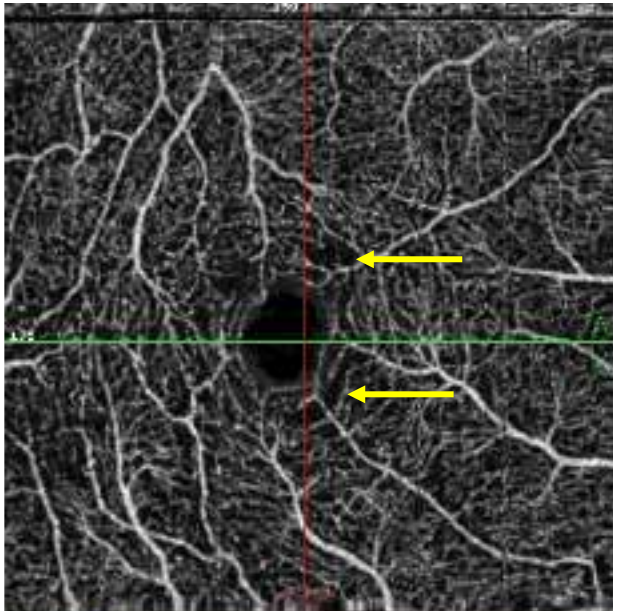


Birdshot Chorioretinopathy



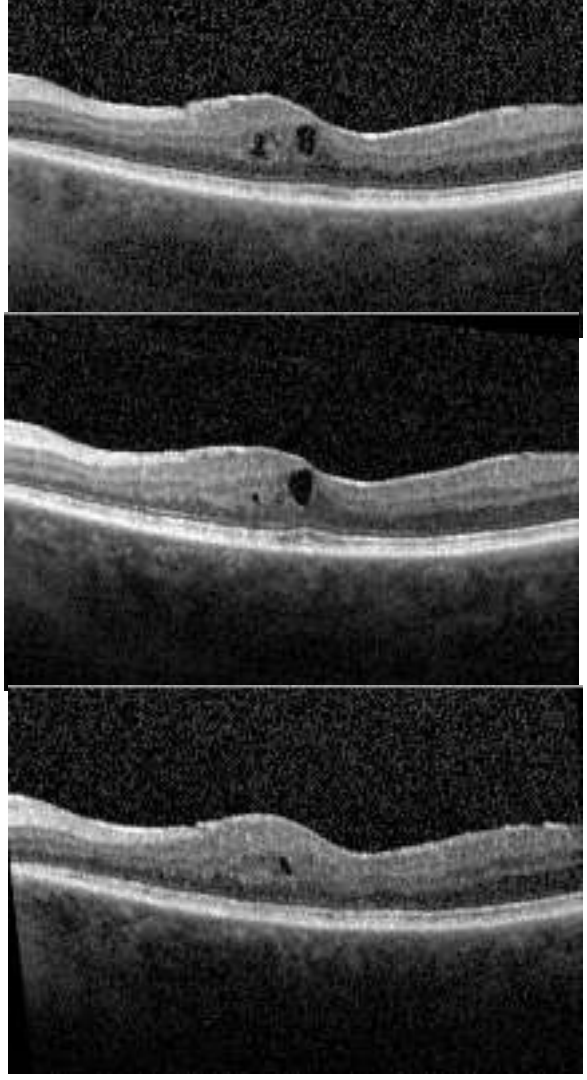






Systemic steroids initiated: Patient bridged with oral corticosteroids while MMF was initiated

Macular edema and alterations in OCT Angiography



Baseline

4 weeks

16 weeks

PRACTICAL CONSIDERATIONS

- Adequate inflammation control with IMTs
- Adequate dose optimization/ change of IMT (in case of intolerance/ suboptimal response)

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Major review

Vogt-Koyanagi-Harada disease

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ARTICLE INFO

Article history:
Received 5 February 2016
Received in revised form 16 May 2016
Accepted 16 May 2016
Available online 27 May 2016

ABSTRACT

Vogt-Koyanagi-Harada disease, a severe bilateral gran
associated with serous retinal detachment, disk edem
ment of a sunset glow fundus, is an autoimmune inflam
that target melanocytes in individuals susceptible to the d
presents clinically in 4 different phases: prodromal, uvei
extraocular manifestations including headache, morning

patients presenting weeks after initial onset of symptoms, autofluorescence shows diffuse and mottled hyper-autofluorescence mixed with hypoautofluorescence in areas of exudative retinal detachments and demonstrated hypo-autofluorescent dots at 6 months after treatment.[109] See

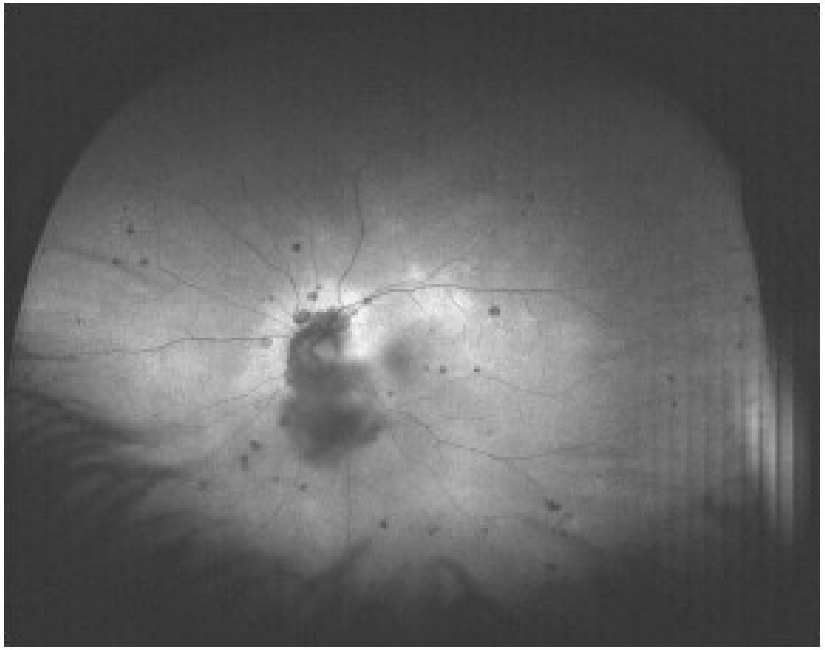
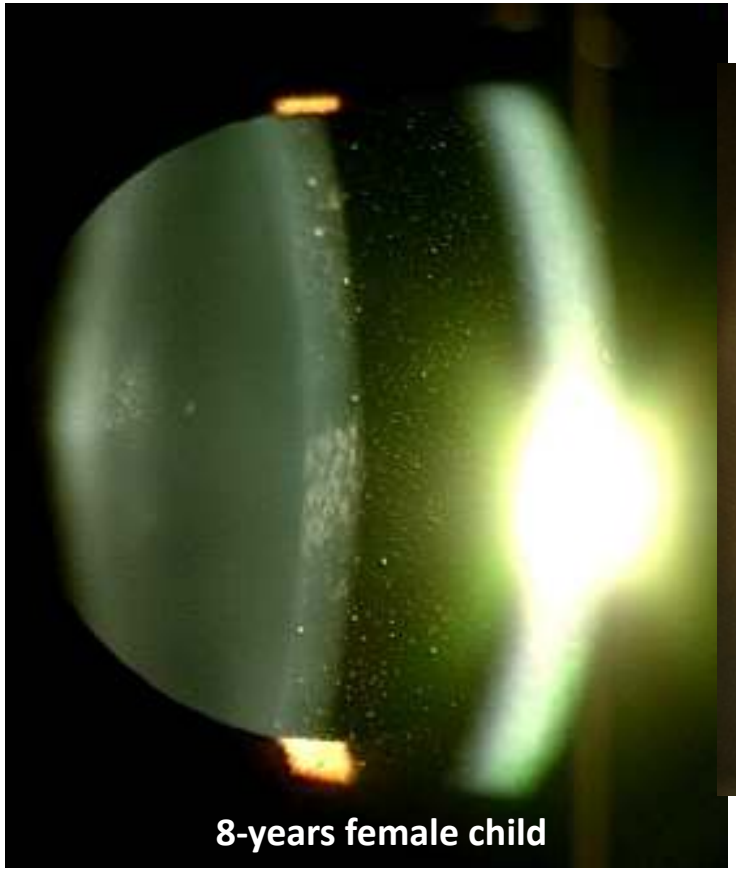


Fig. 9 – Widefield autofluorescence imaging demonstrating hypoautofluorescent spots in the retina.

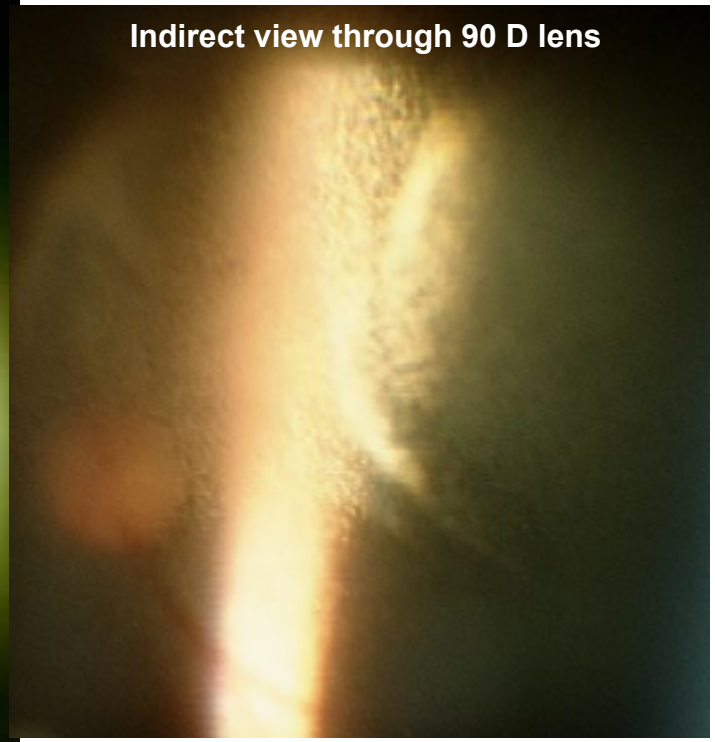
In conditions such as VKH, delayed initiation of therapy (even weeks after initial onset) can lead to permanent damage to photoreceptors and RPE!

a. When not to start IMT?
b. We have an infection, can we start IMT?

2 scenarios

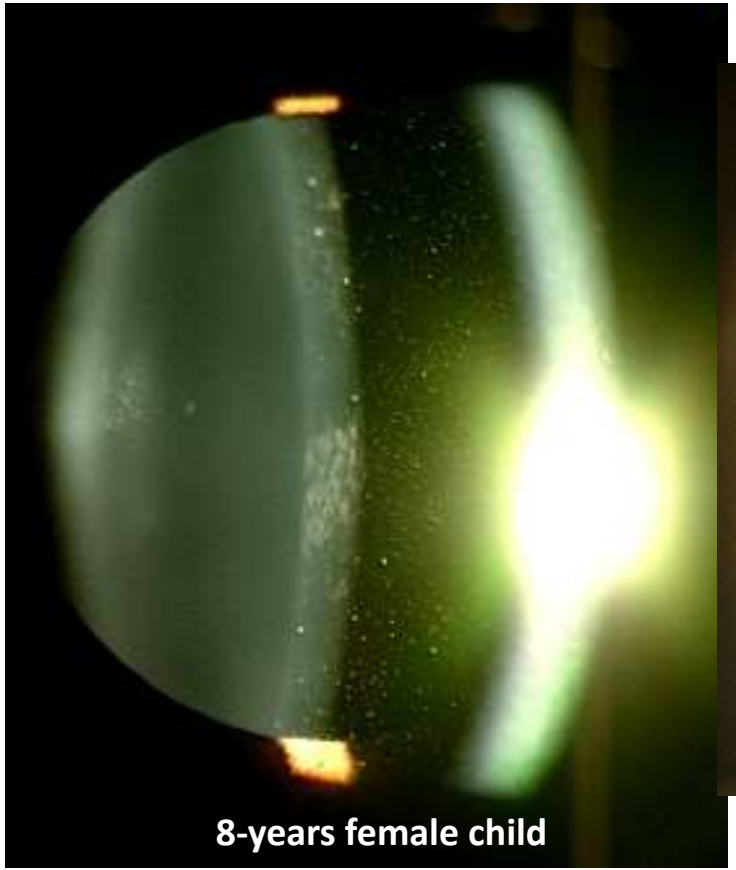


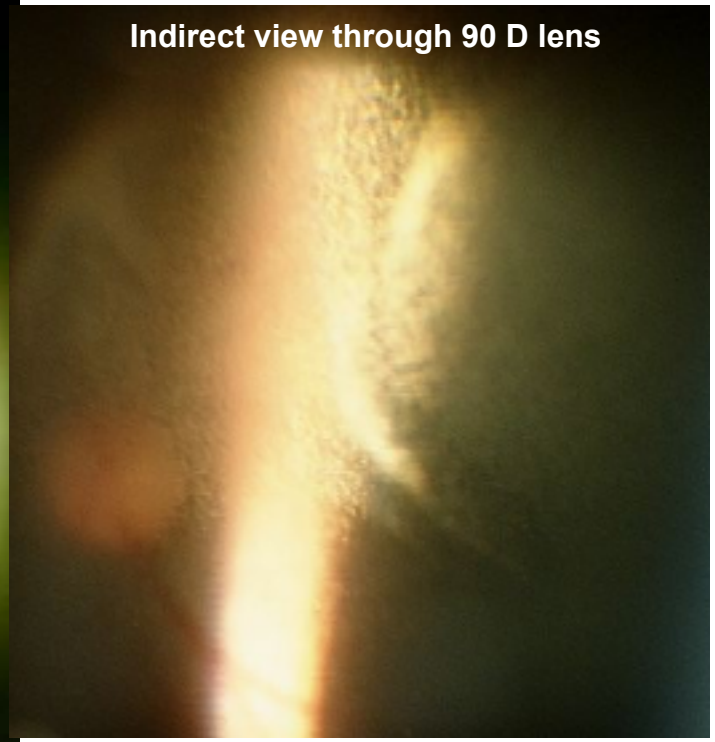
8-years female child

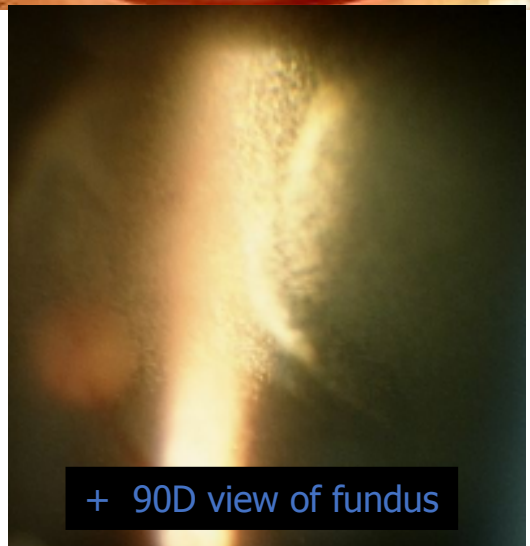


Indirect view through 90 D lens

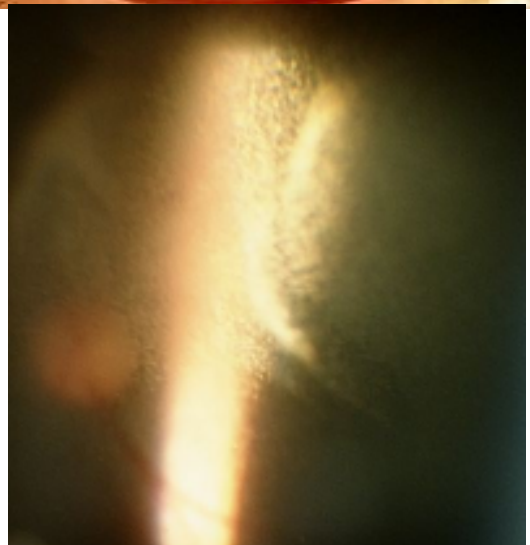
Large cells in AC and Vitreous in a child

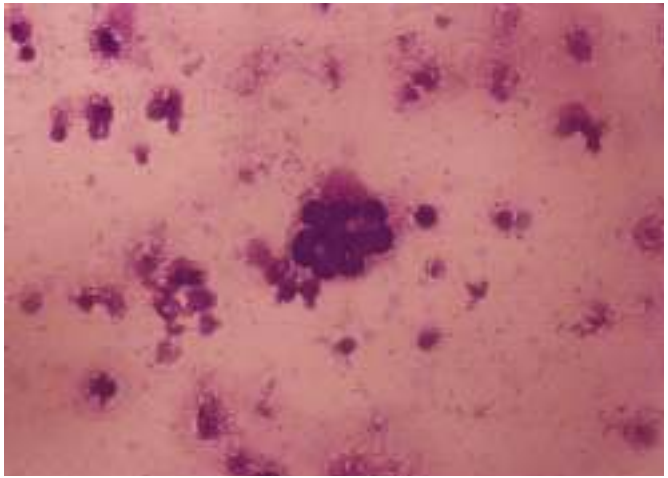




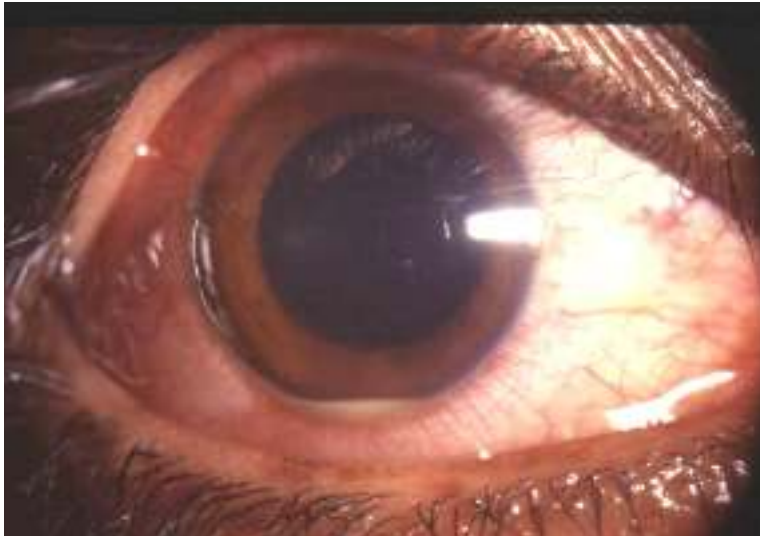

+ 90D view of fundus

Think of Retinoblastoma

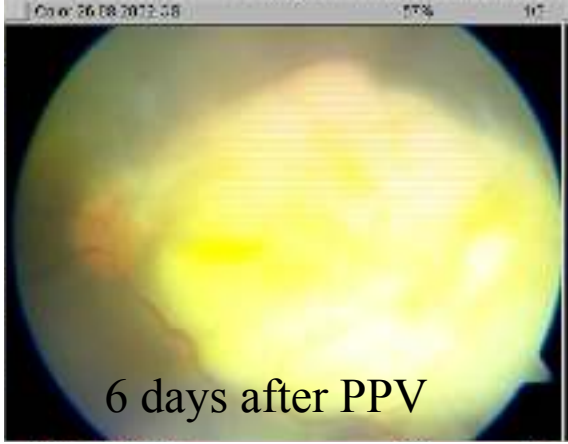




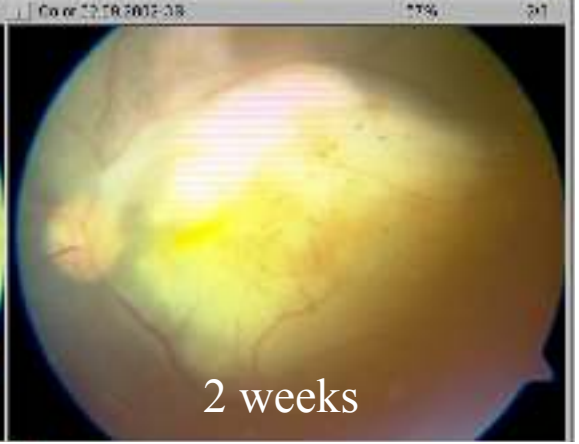
Hypopyon with:



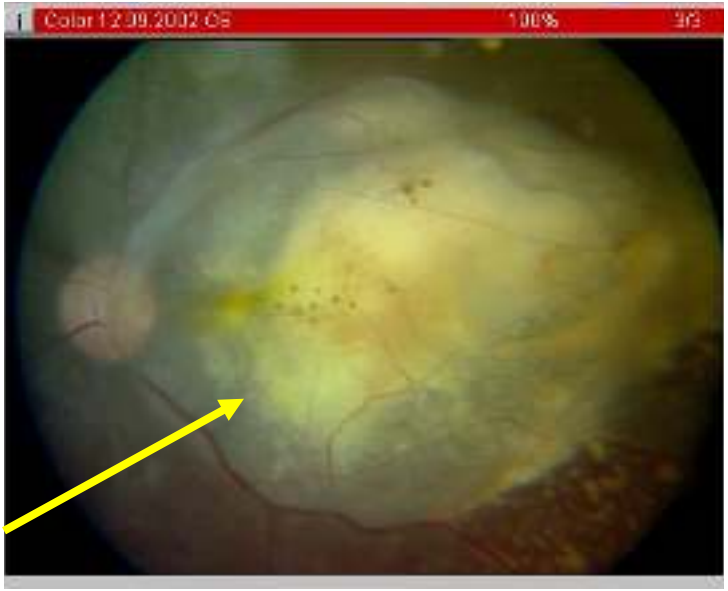
- Swollen lids, conjunctival congestion and chemosis
- Corneal edema with raised IOP
- Reduced or absent red reflex due to vitreous exudates



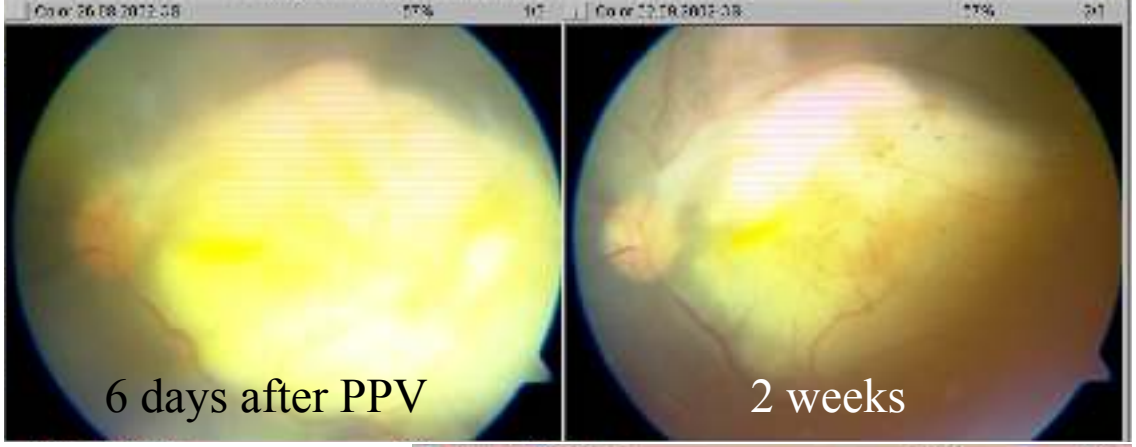
6 days after PPV



2 weeks



3 weeks after PPV

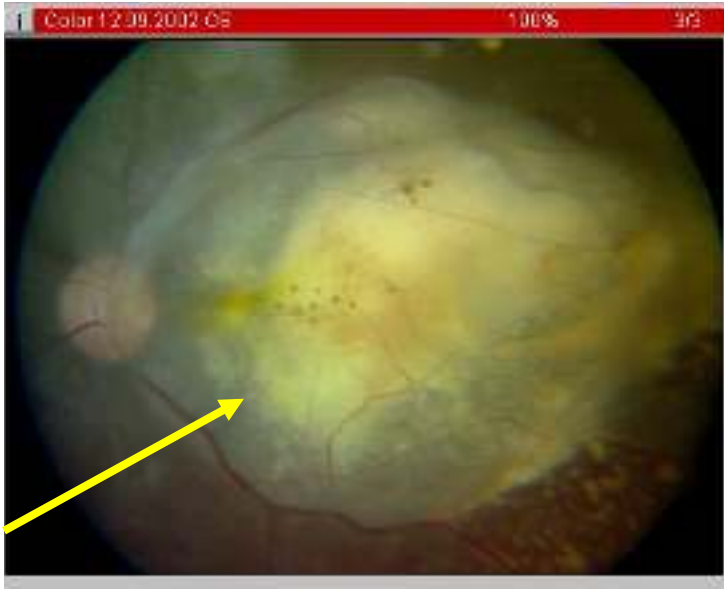


Differential diagnosis:

a. *Tuberculosis*
b. *Nocardia*
c. Fungal(*Aspergillus*)

Cytology, PCR, Cultures

3 weeks after PPV



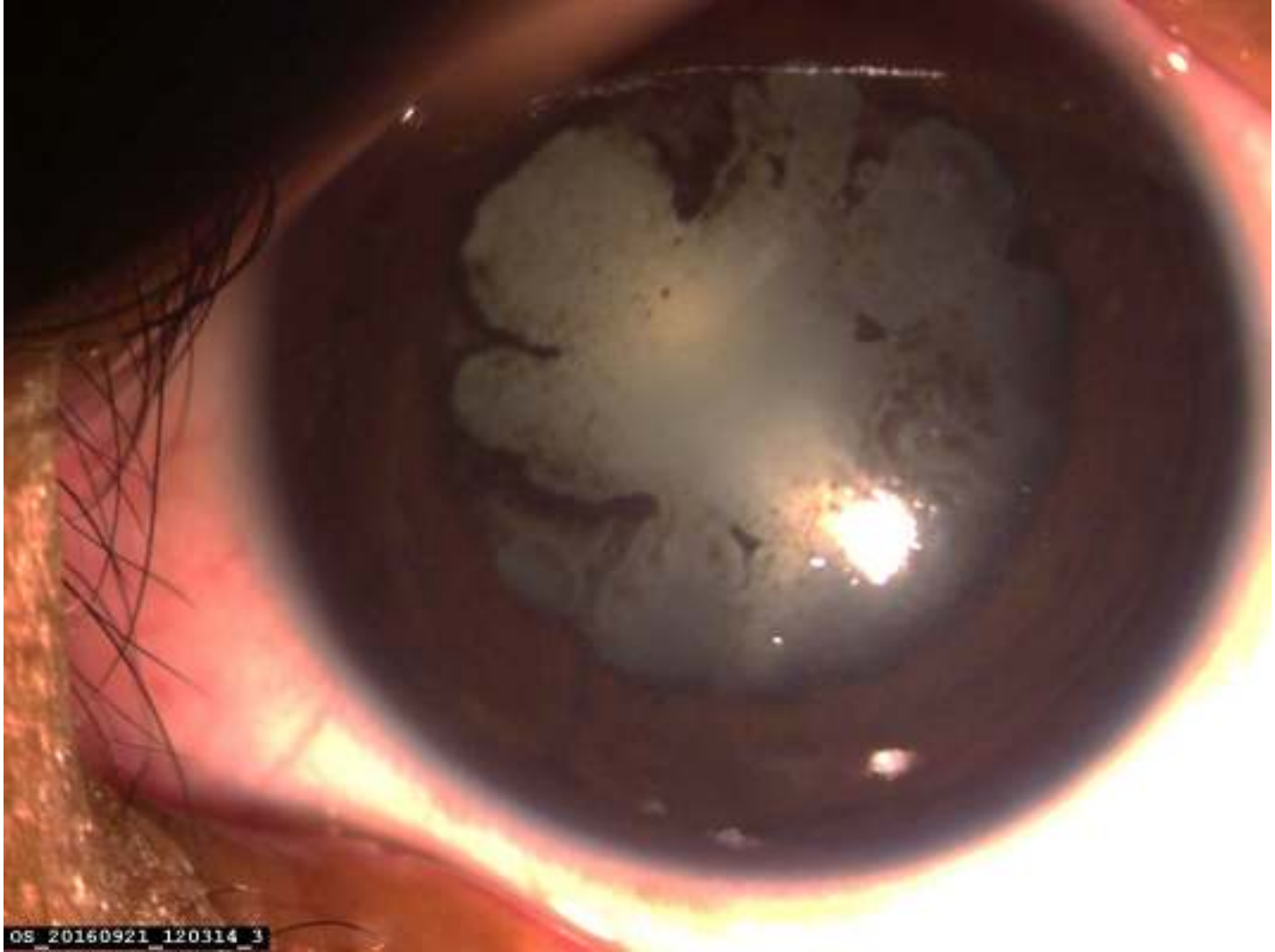
a. Biologics – when and where?
b. What to do when on IMT?

3 scenarios

Case Summary

- 11-year-old boy
- Diagnosed with JIA associated uveitis
- Also worked up for HLA B27
- Presented initially with Reiter’s-like picture

- **Started on adalimumab infusions**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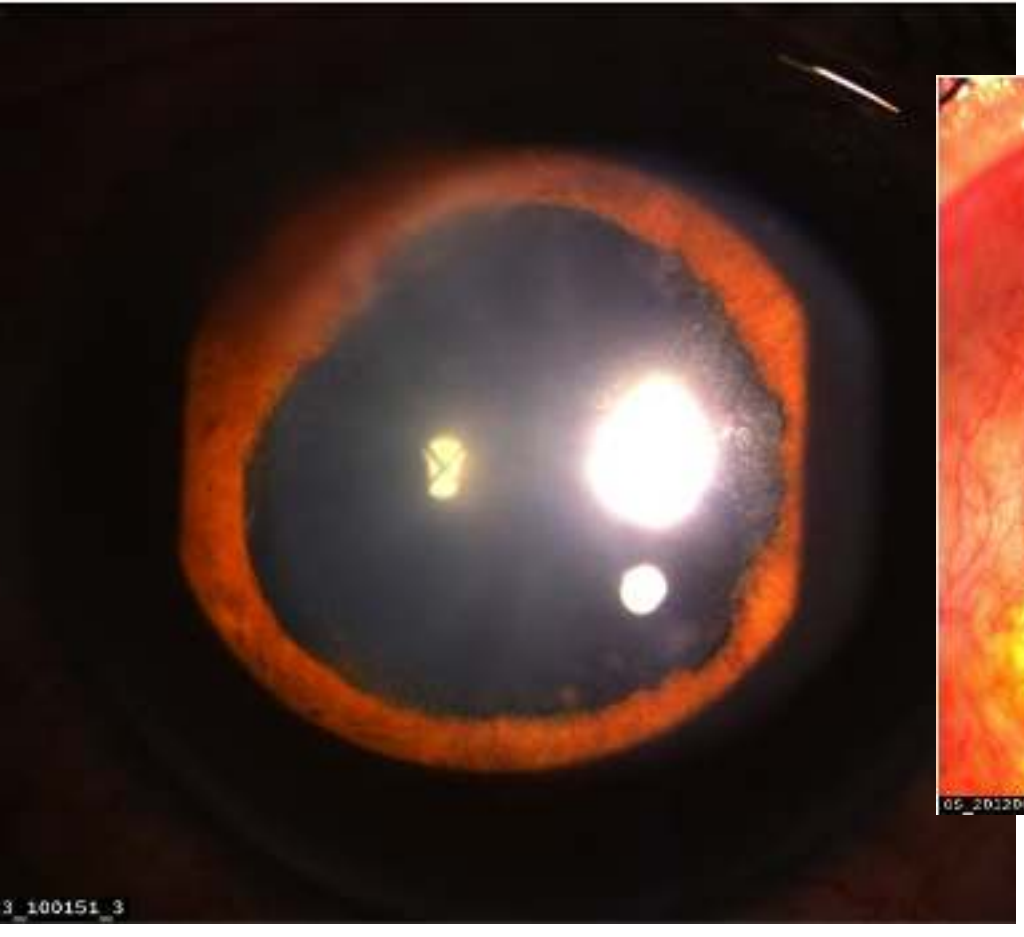
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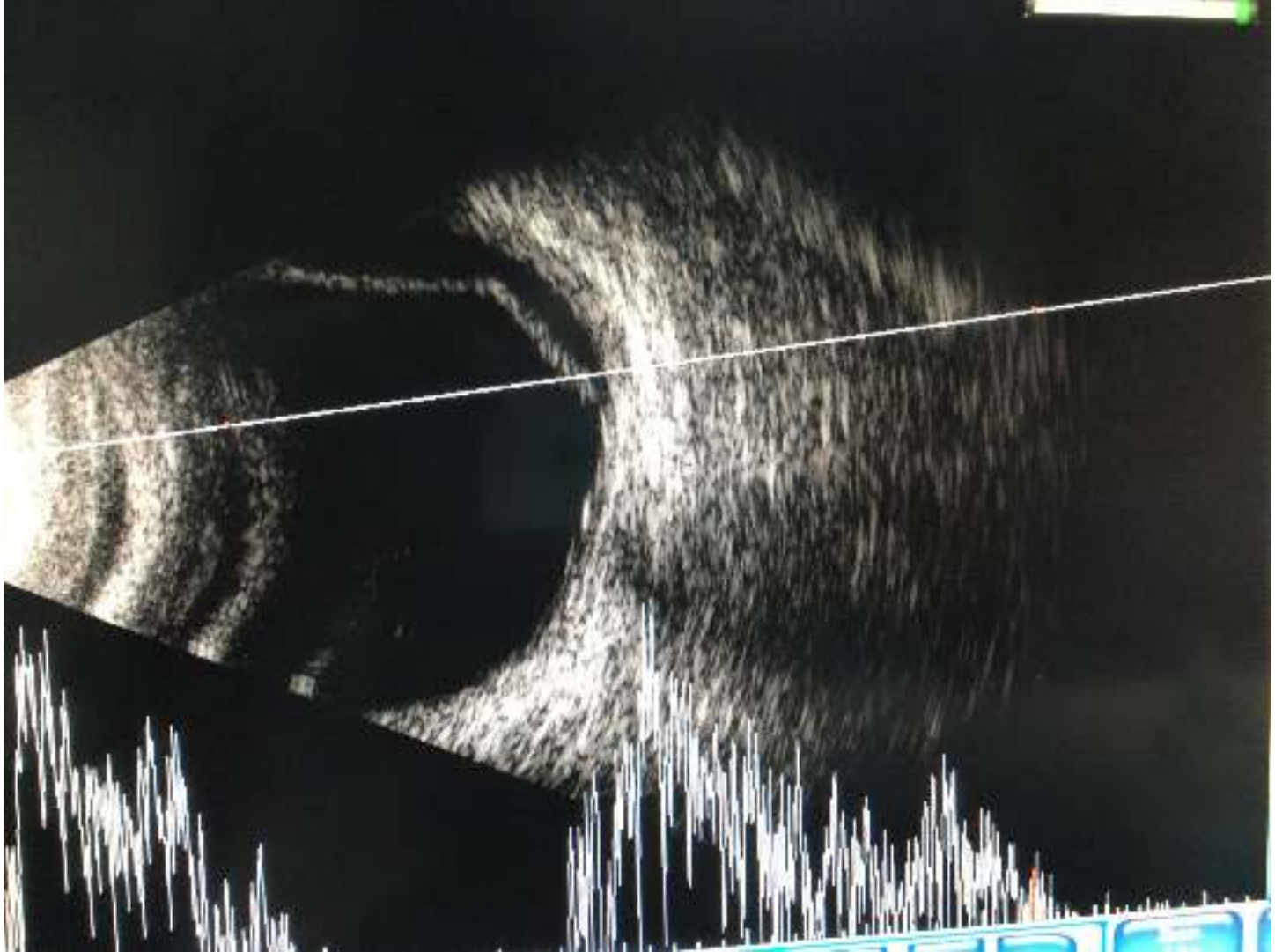


Outcomes

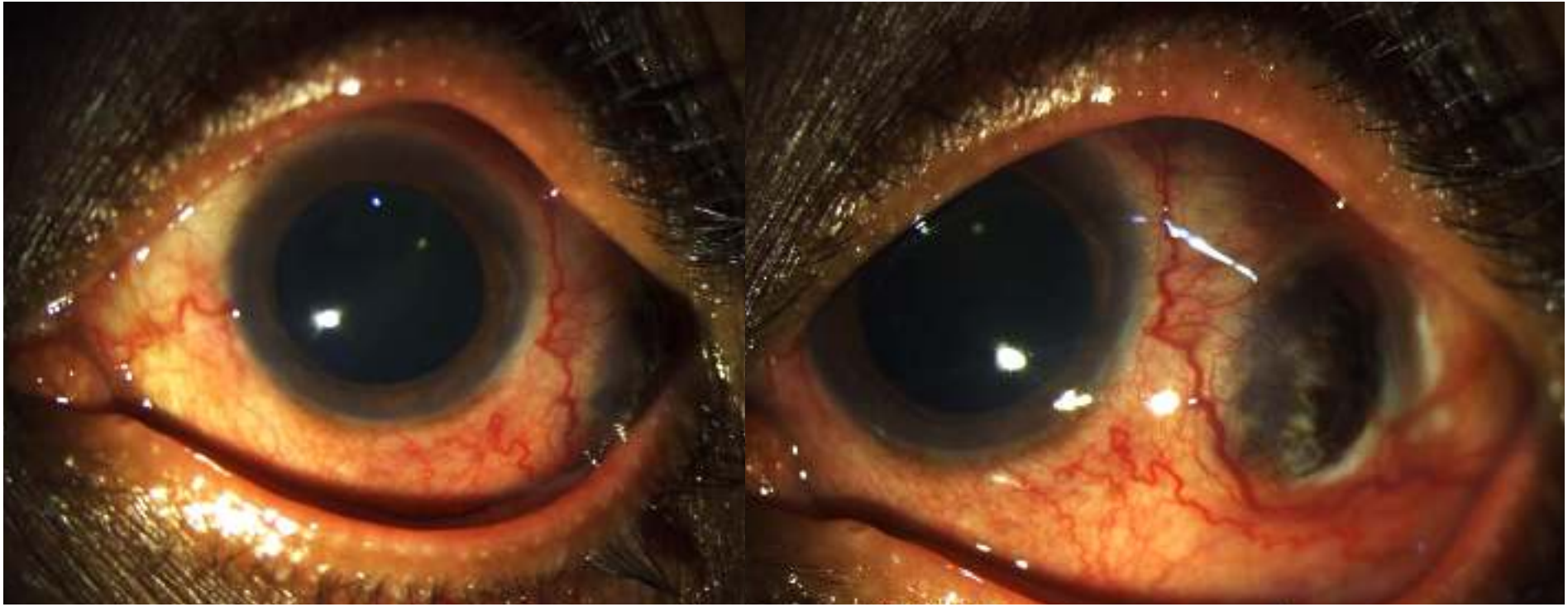
- Did well
- **Resolution of inflammation and lack of cells in the anterior chamber**
- **Adalimumab maintains ciliary body function and reduces long-term complications such as band-shaped keratopathy and hypotony**

Case Summary

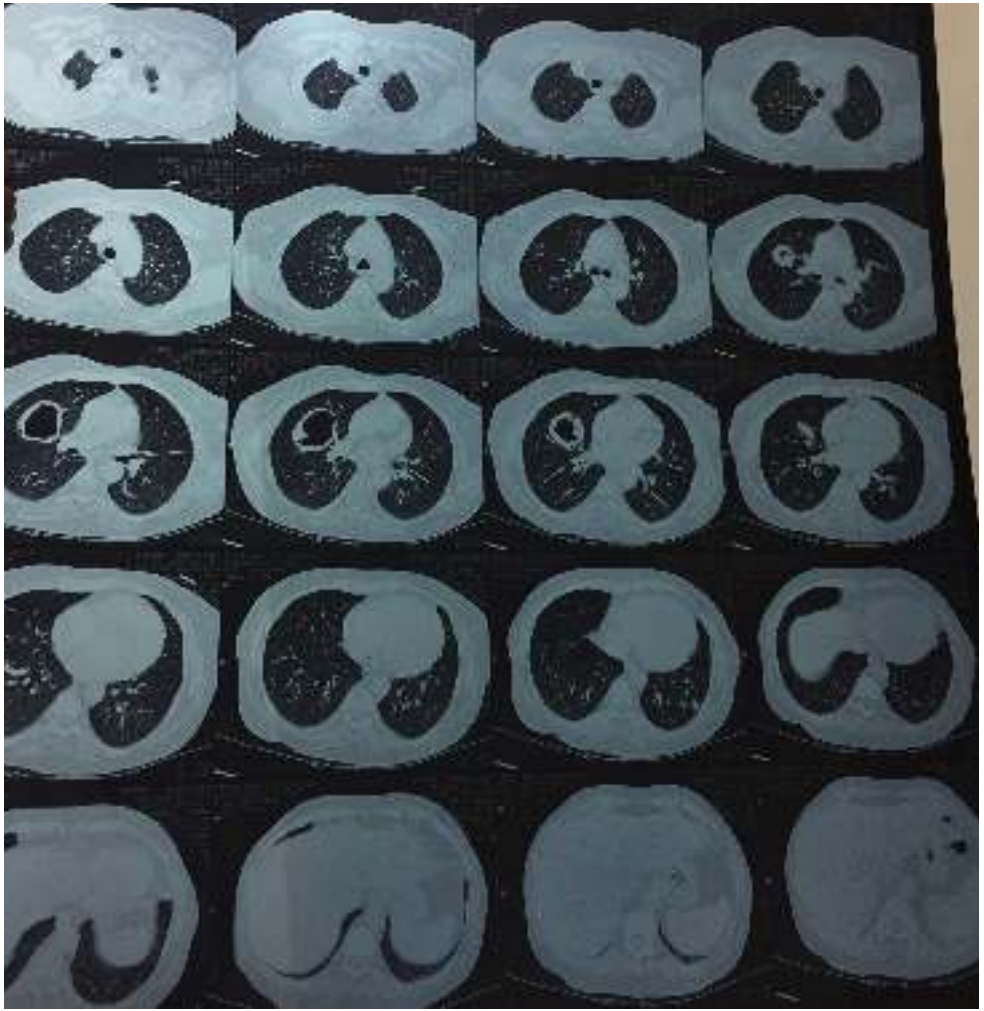
43 years

Female

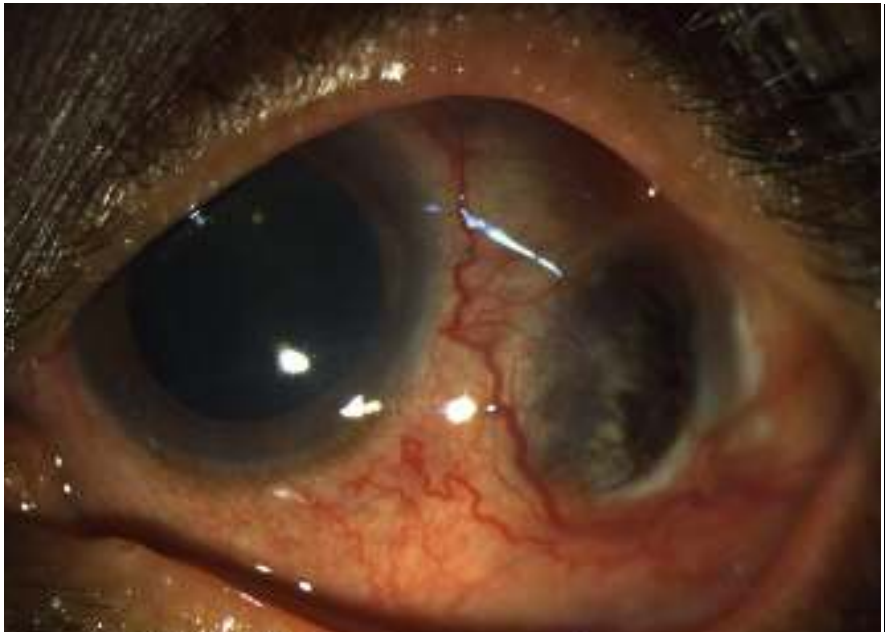
- **Redness, Pain and Diminution of vision OS**
- **No Trauma**
- **Diagnosed as scleritis and given short course of oral steroids**
- **Mantoux negative, ESR 82, Normal chest x-ray**

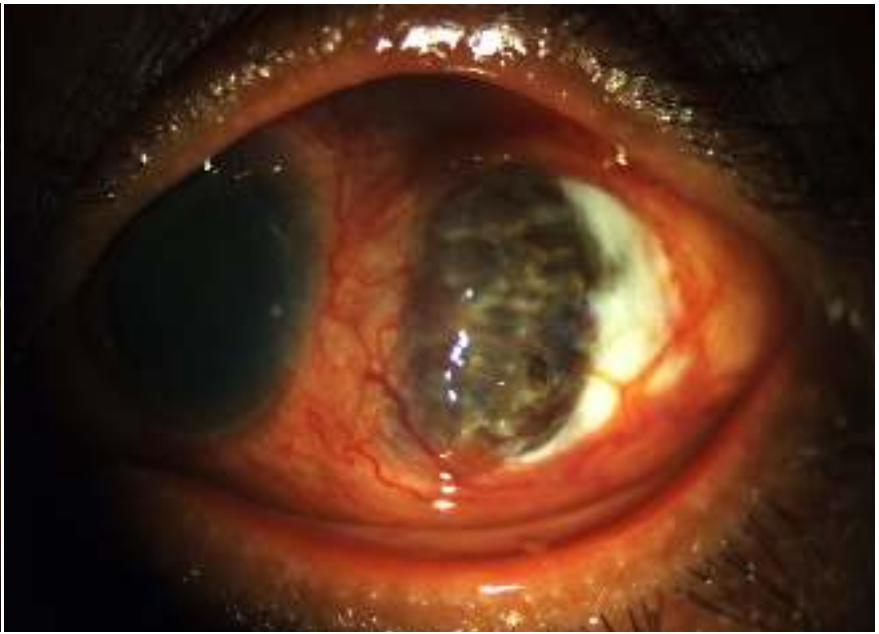


CECT Chest - Nodular lesions in RML and LLL as described with cavitation to consider possibilities of granulomatosis with polyangiitis especially with necrotizing scleritis and vitritis.



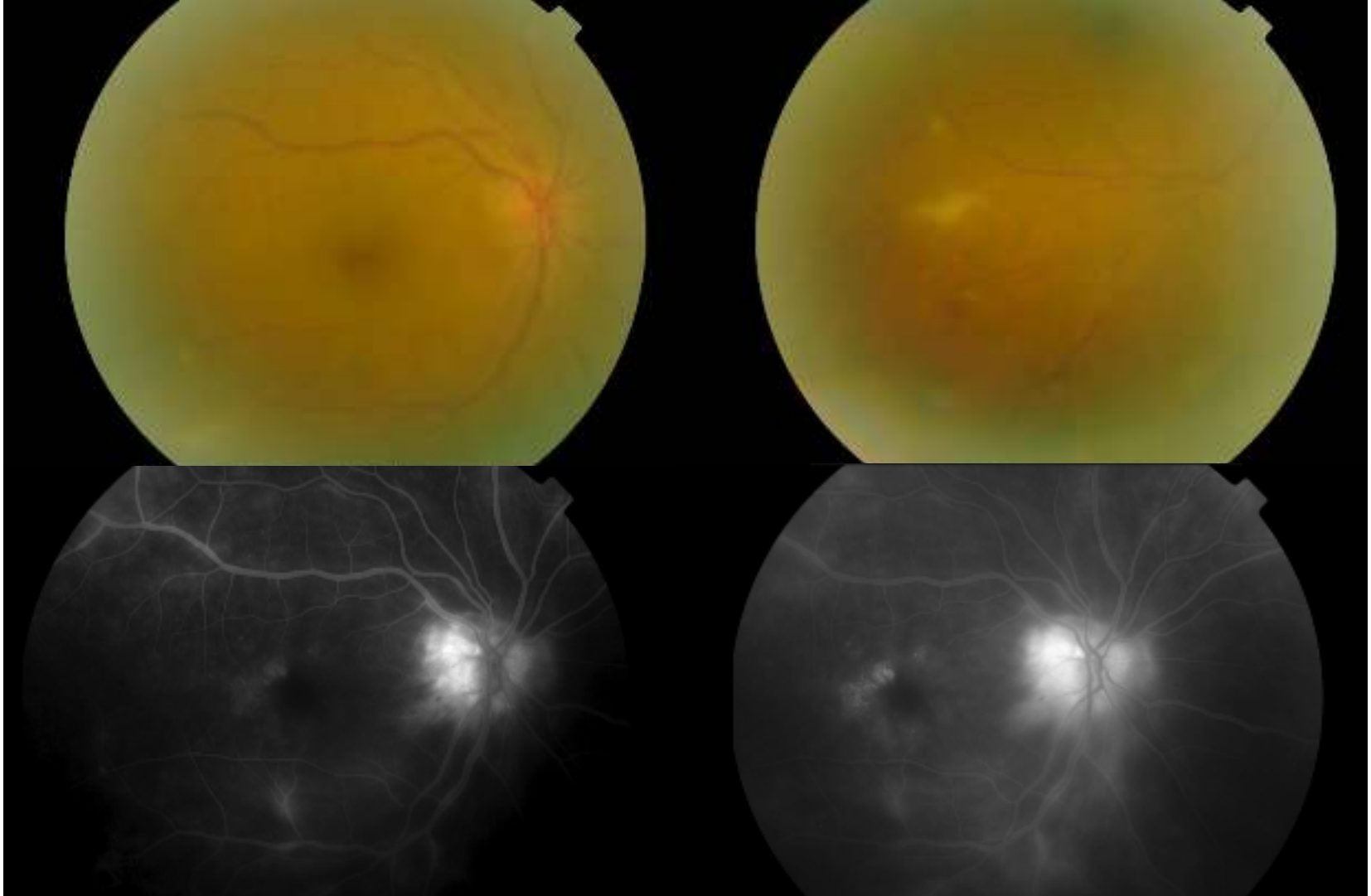
IV Rituximab: Protocol for RA





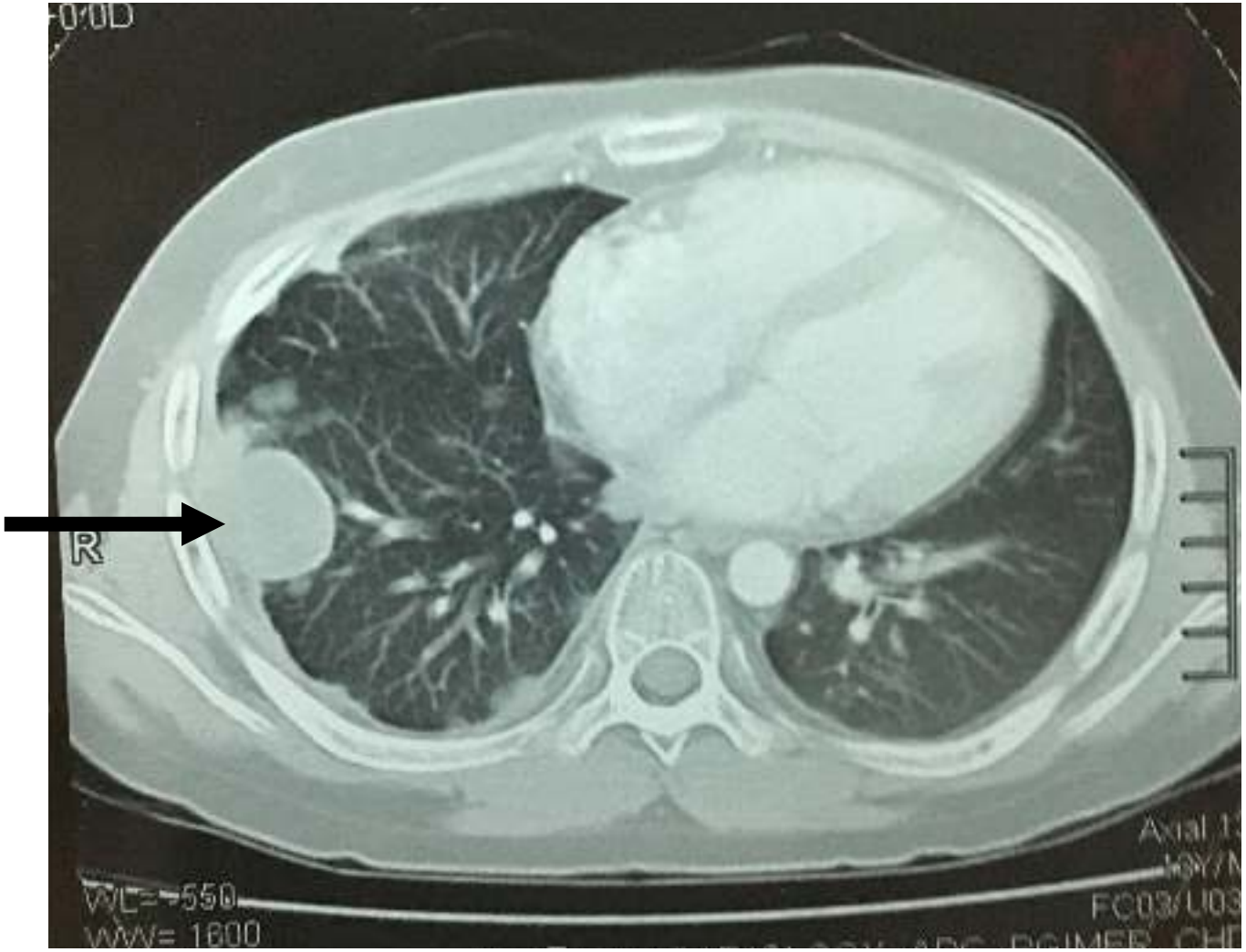
Case Summary

- A 10-year-old boy presented with diminution of vision for the past 3 months.
- He presented with hypopyon uveitis and diffuse capillaritis and disc edema on fluorescein angiography
- Mantoux: Negative
- QuantiFERON: Negative
- Initial CECT Chest: Normal
- **Was diagnosed as sarcoid and started on adalimumab**



Further Course

- He presented with fever, chest pain and slight difficulty in breathing following 6 infusions of adalimumab.
- Repeat CECT chest showed a large sub-pleural nodule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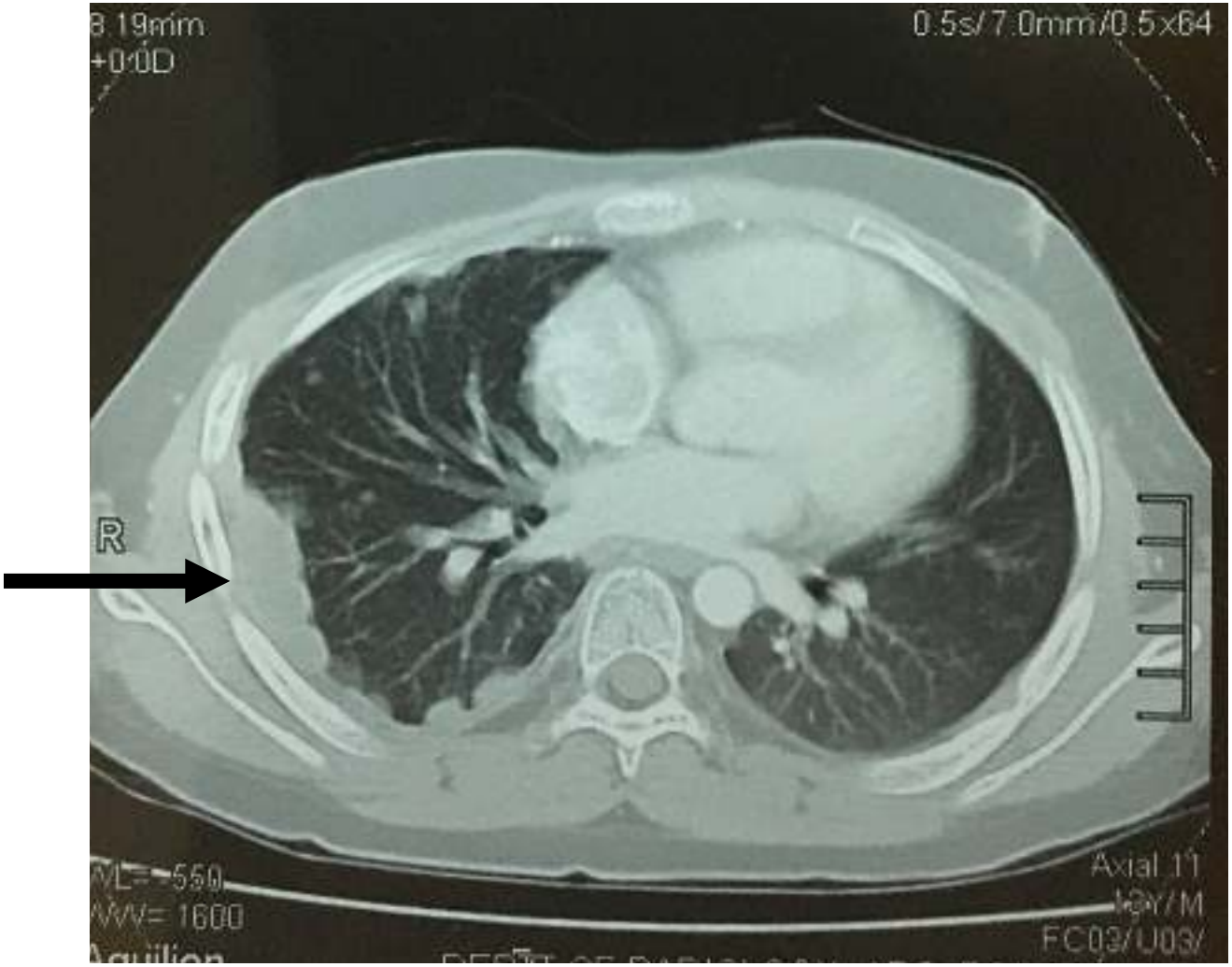
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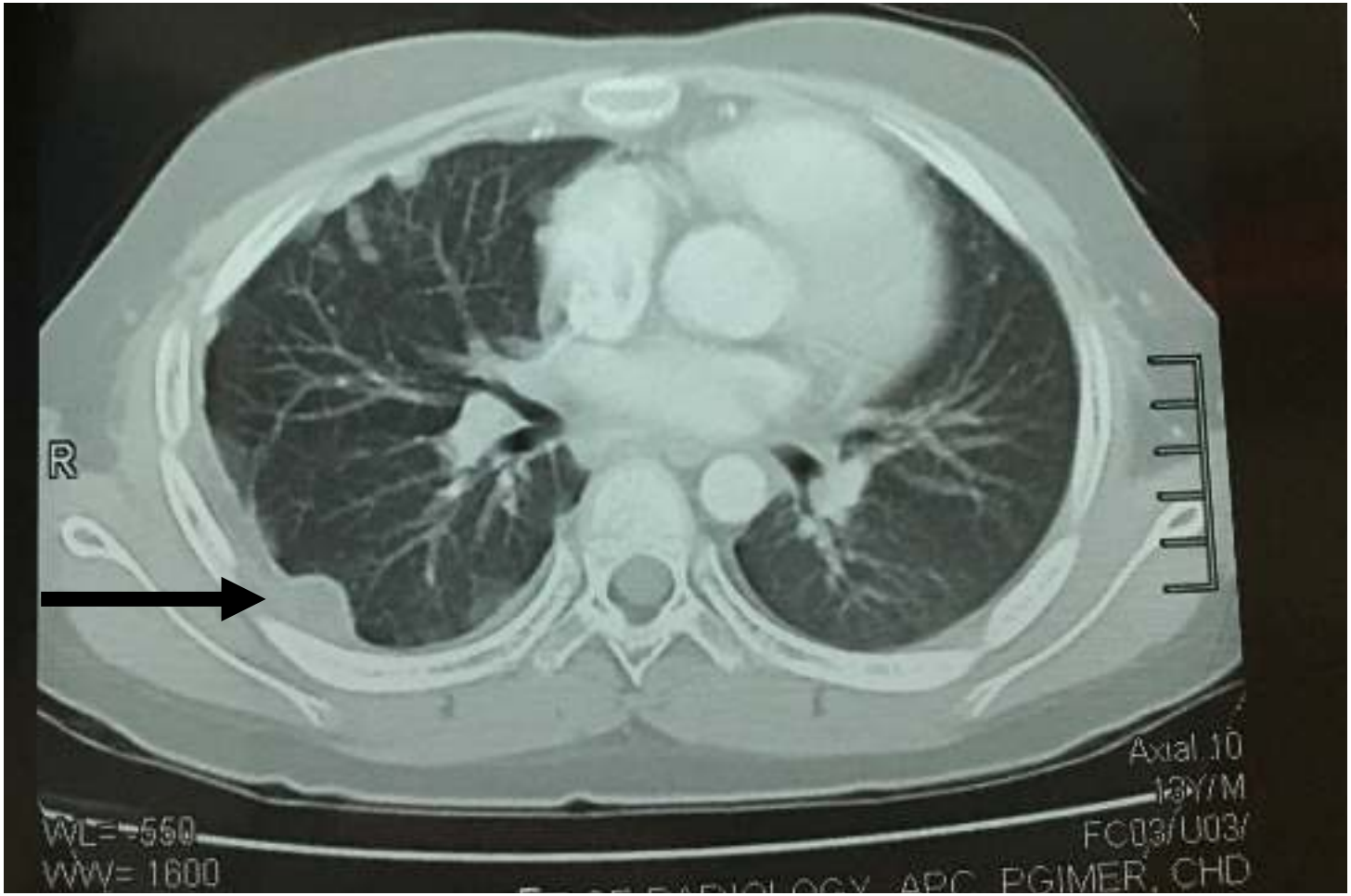
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FC03/U03/
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WW= 1600
RADIOLOGY, APC, PGIMER, CHD

Key points

- Check general health each visit
- Labs – HB CBC LFT RFT
- General medical check or rheumatology assessment
- Be sure of red flags and warning signs
- Communicate!

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