Posterior & Panuveitis
Case presentations highlighting evaluation & management

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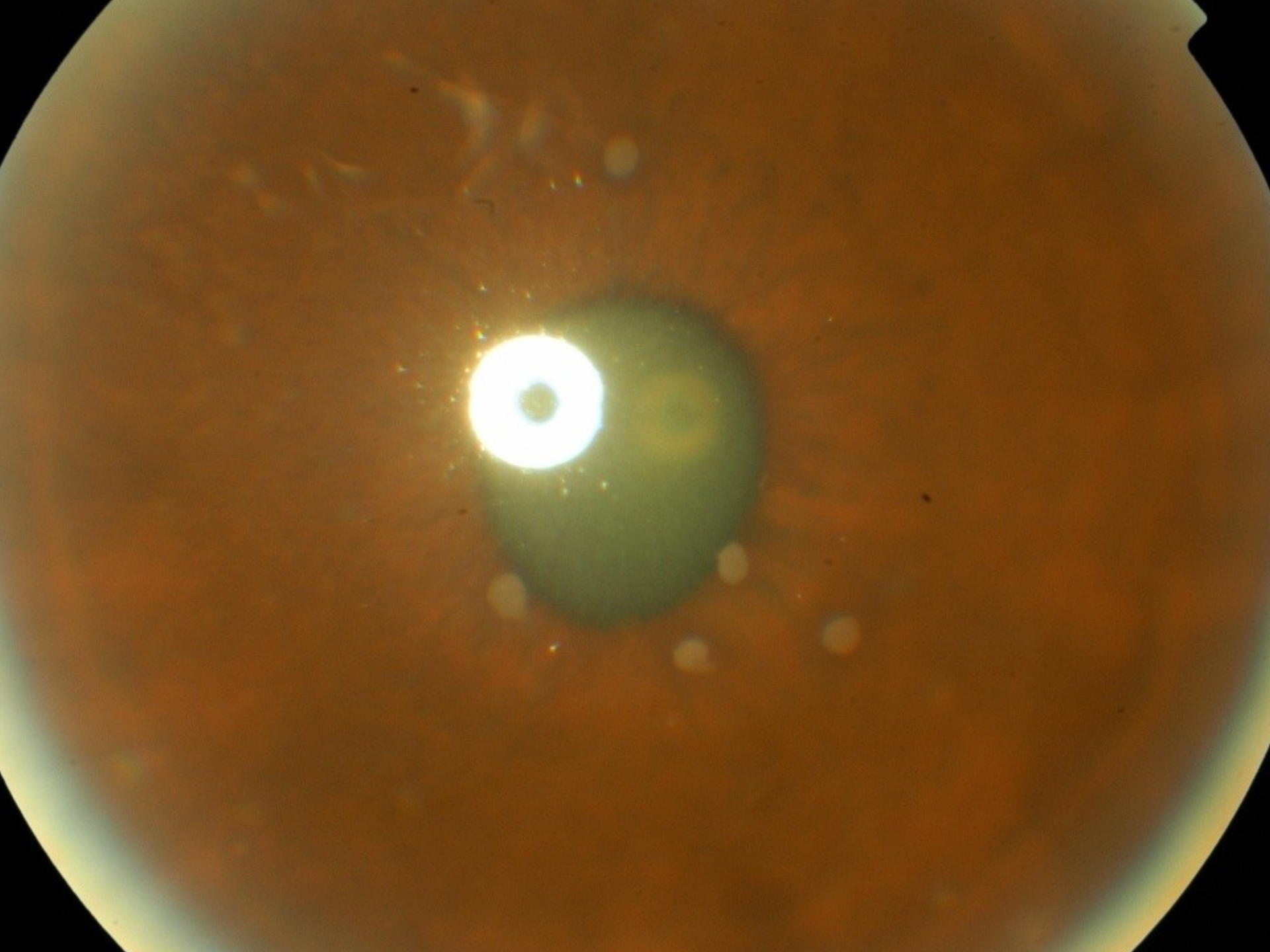
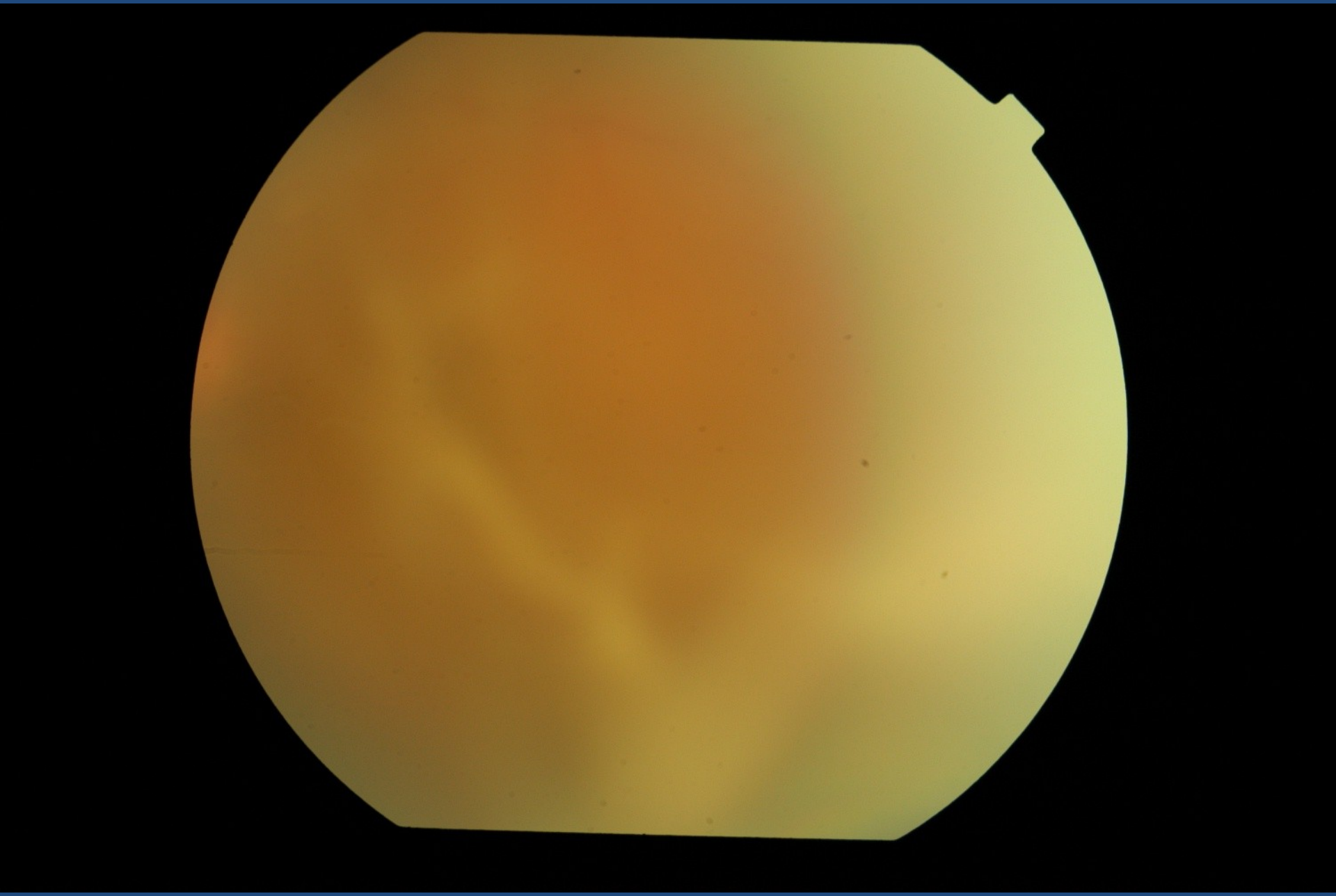
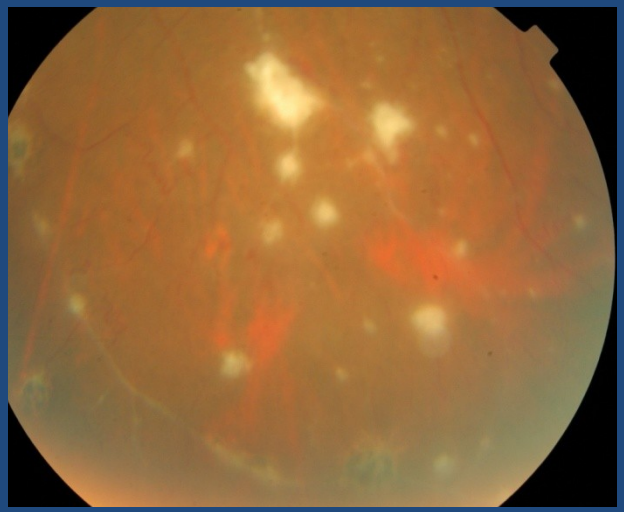




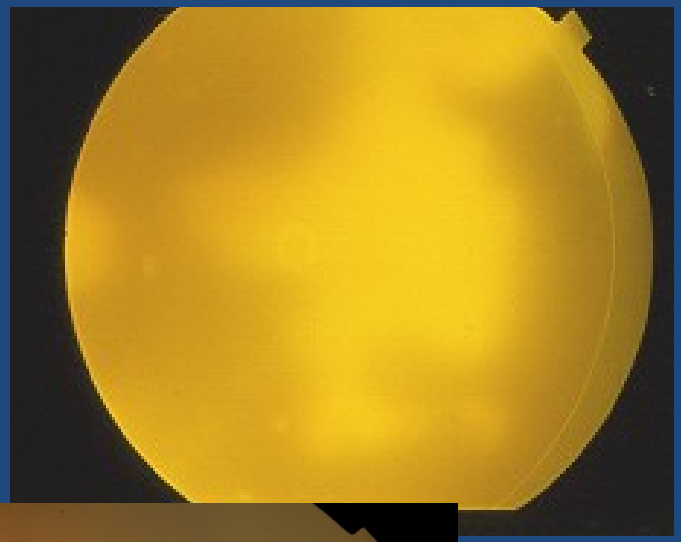
Observe…

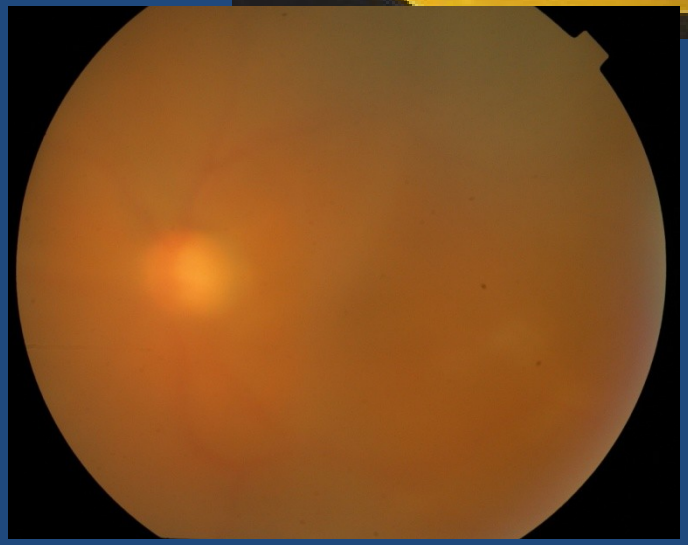
- Vitreous cells
- Retinitis
- Choroiditis
- Scleritis



Vitreous cells dense

- Retinitis
- Retinal Vasculitis
- Vitreitis
- Panuveitis





Retinitis
Infective as a rule…

- Toxoplasmosis
- Candida
- CMV
- Herpes

Chororiditis
Maybe infective/ immune

- TB abscess
- Sarcoidosis
- Serpiginous
- Multifocal

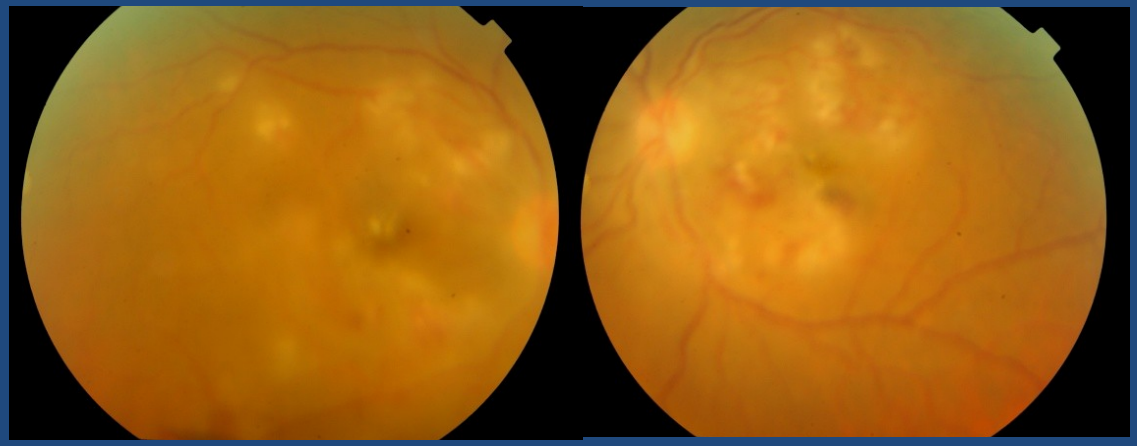
Masquerade

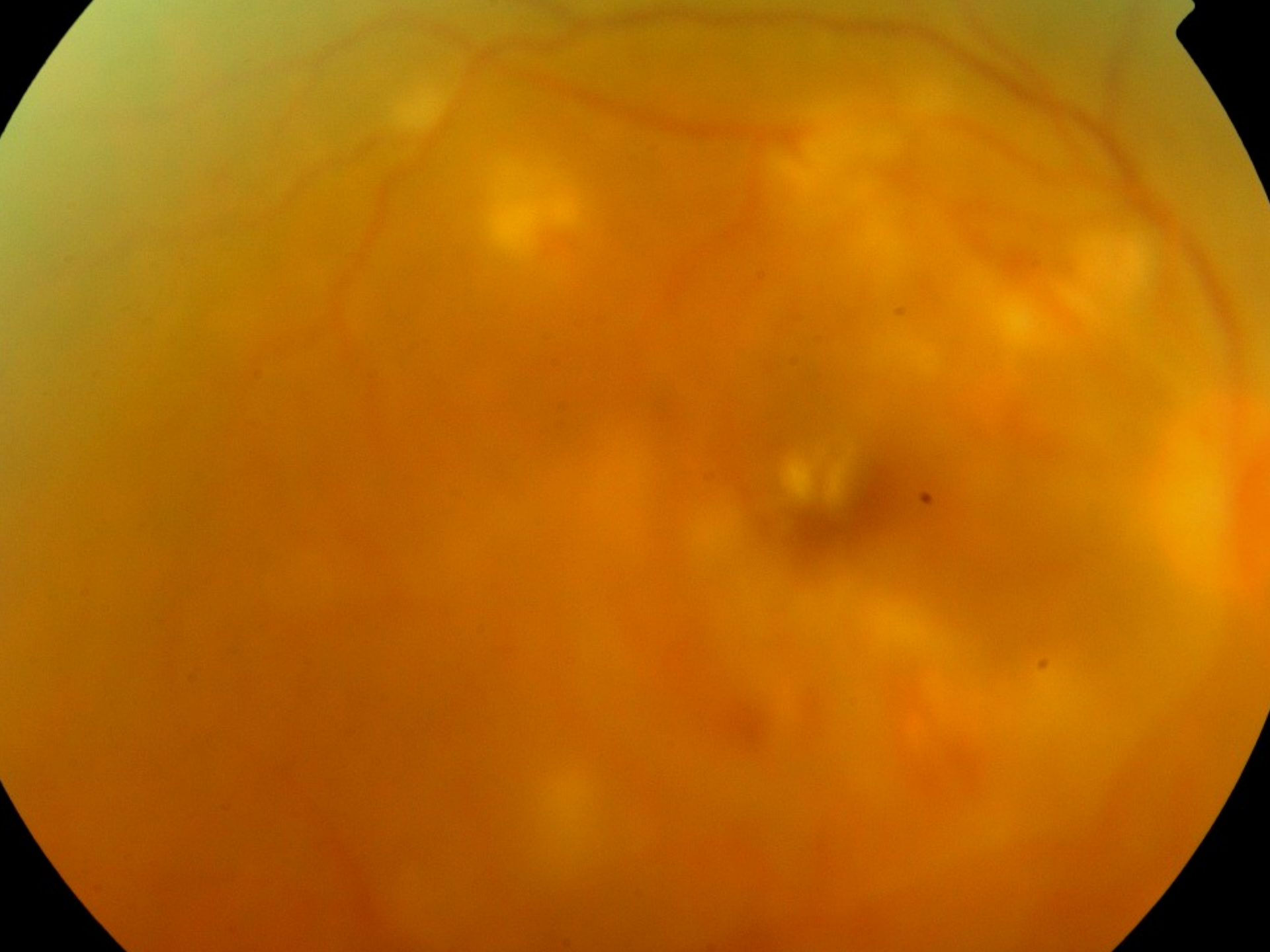
- Blood dyscrasias
- Leukemia
- Lymphoma
- Retinoblastoma
- Melanoma

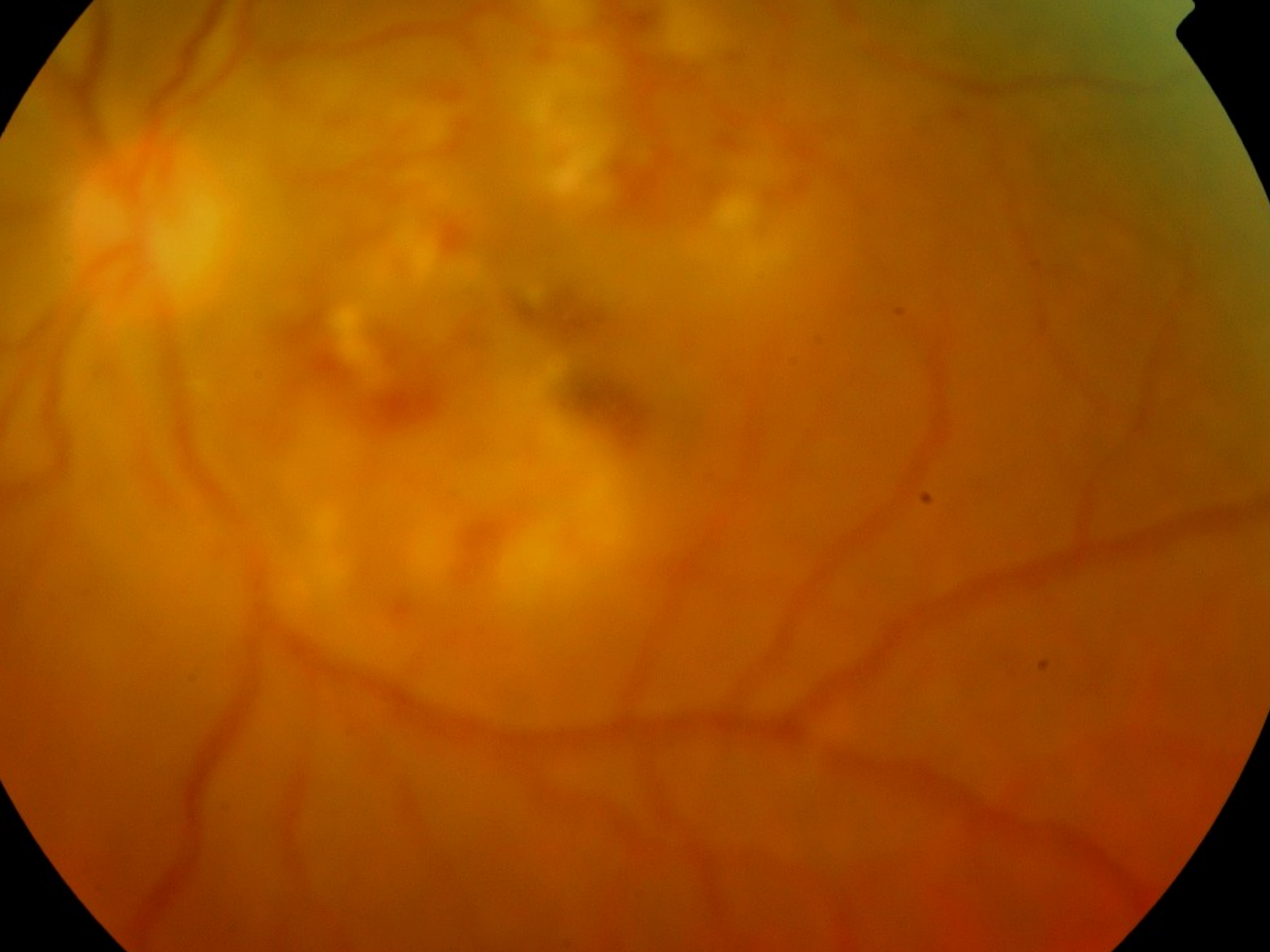
Dengue Retinitis

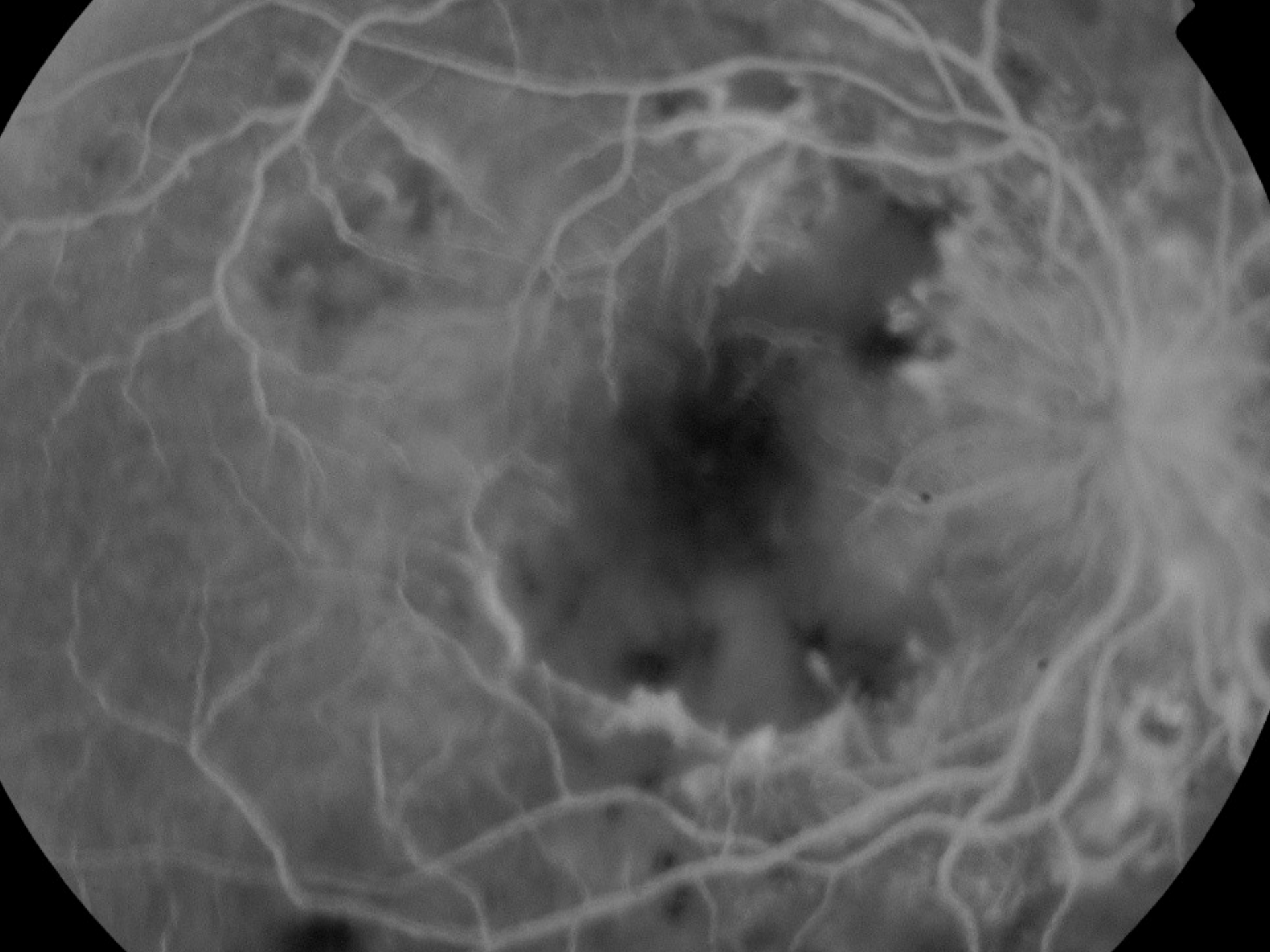
Case Report

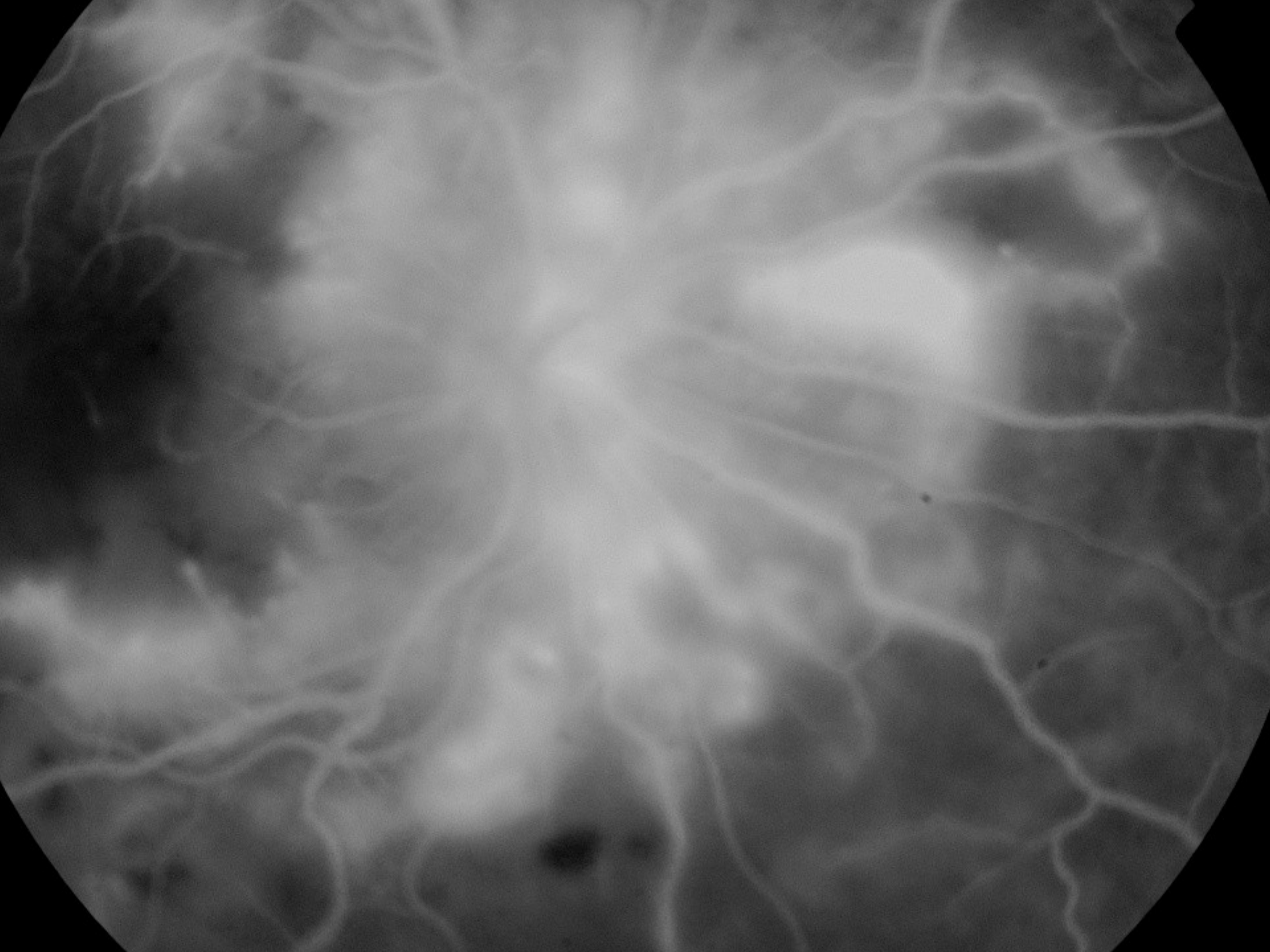
- A 42 y.o. non-diabetic lady
- Hospitalised a month prior for dengue fever
- Both eyes vitreous cells, retinal haemorrhages, and retinal exudates

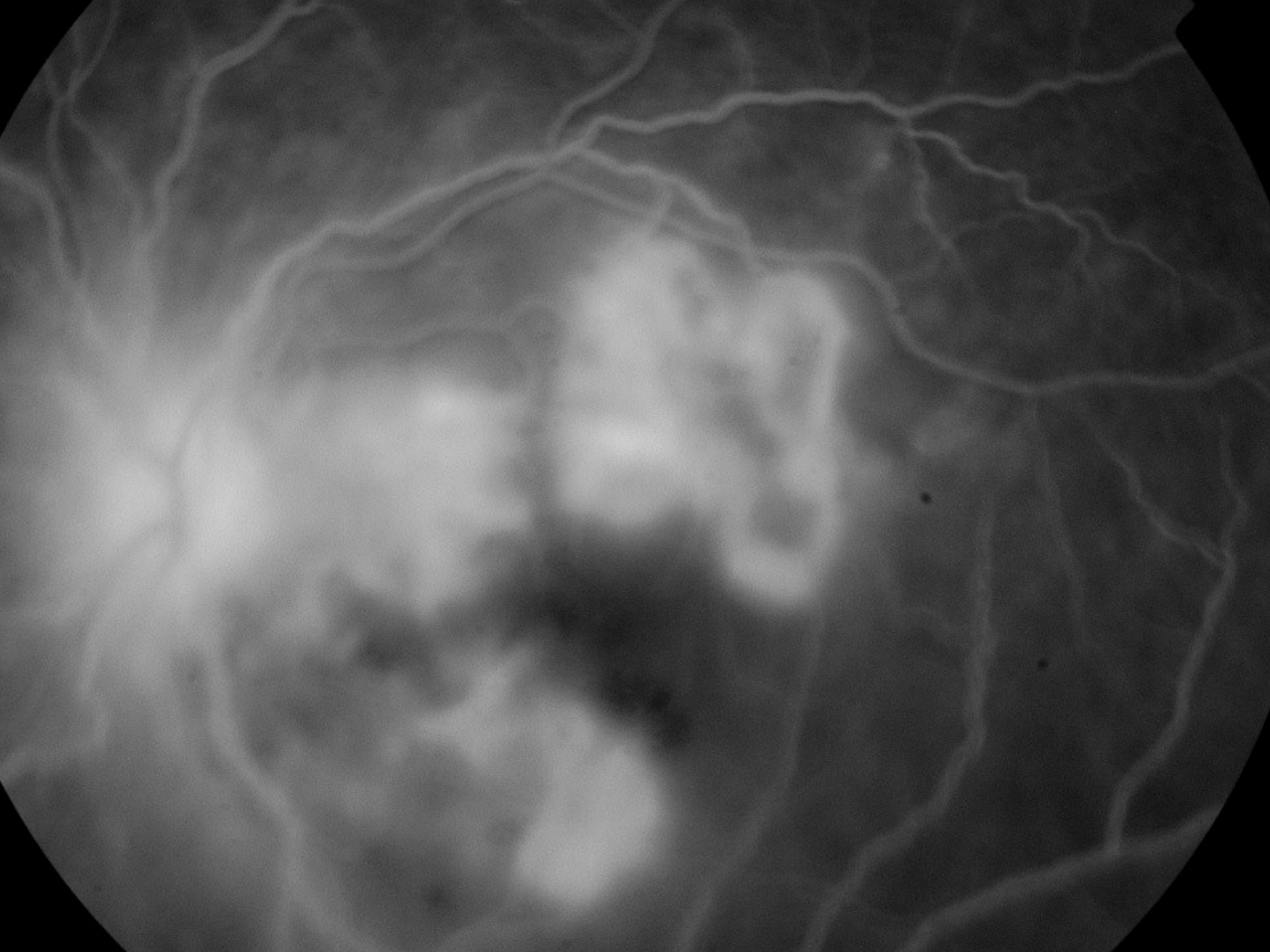


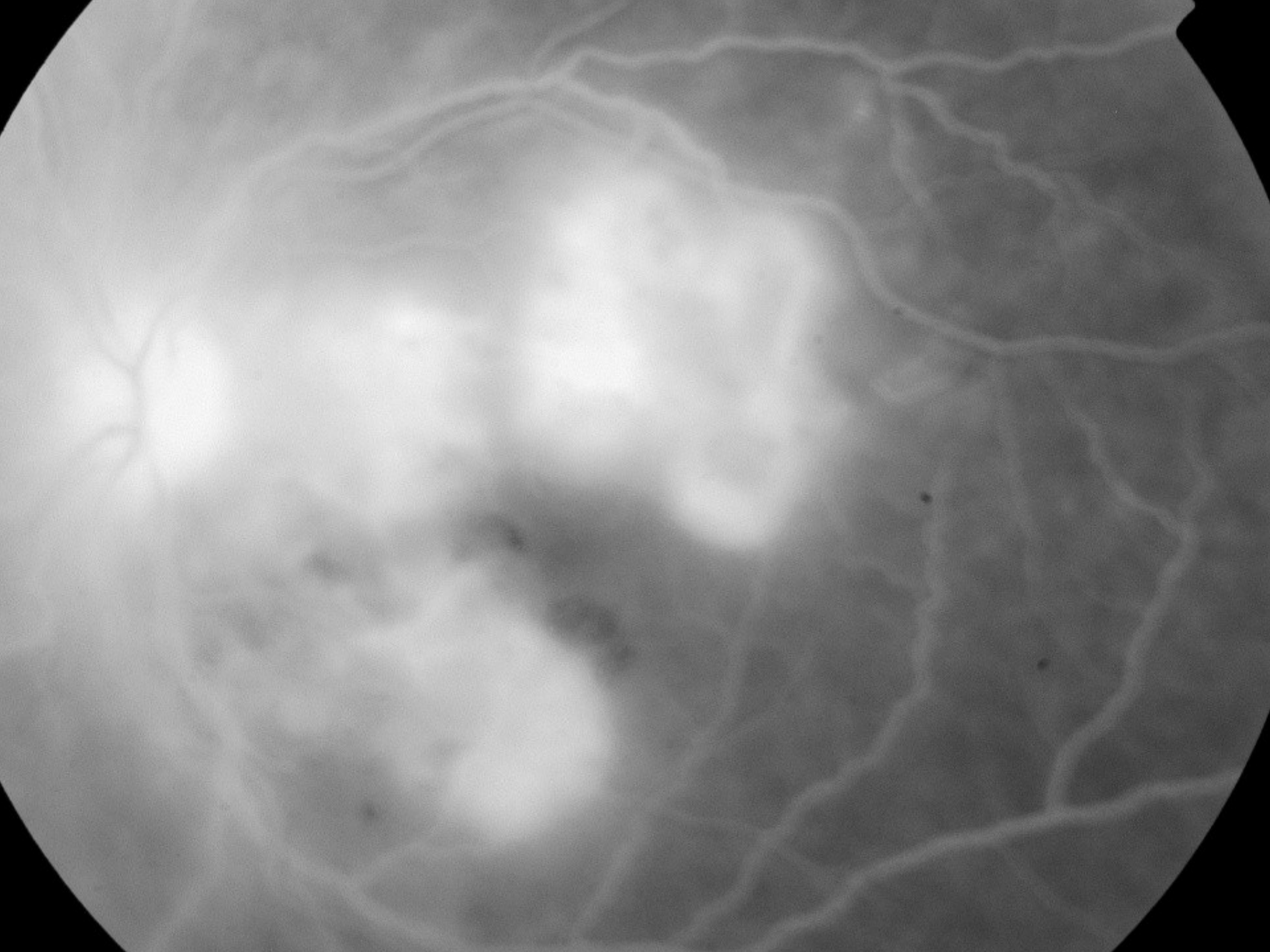












Diagnosis

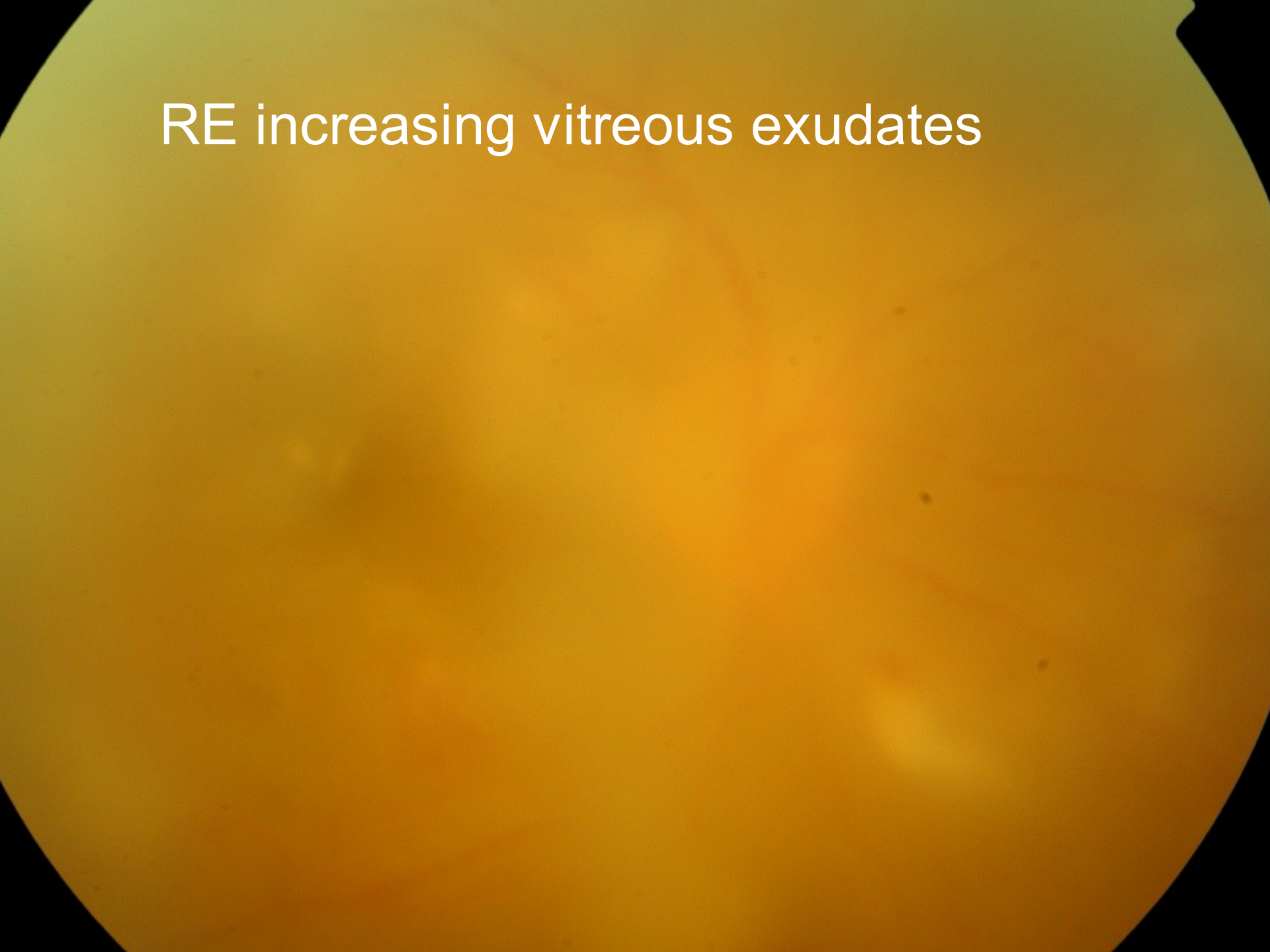
- Bilateral Dengue neuro-retinitis with endogenous endophthalmitis

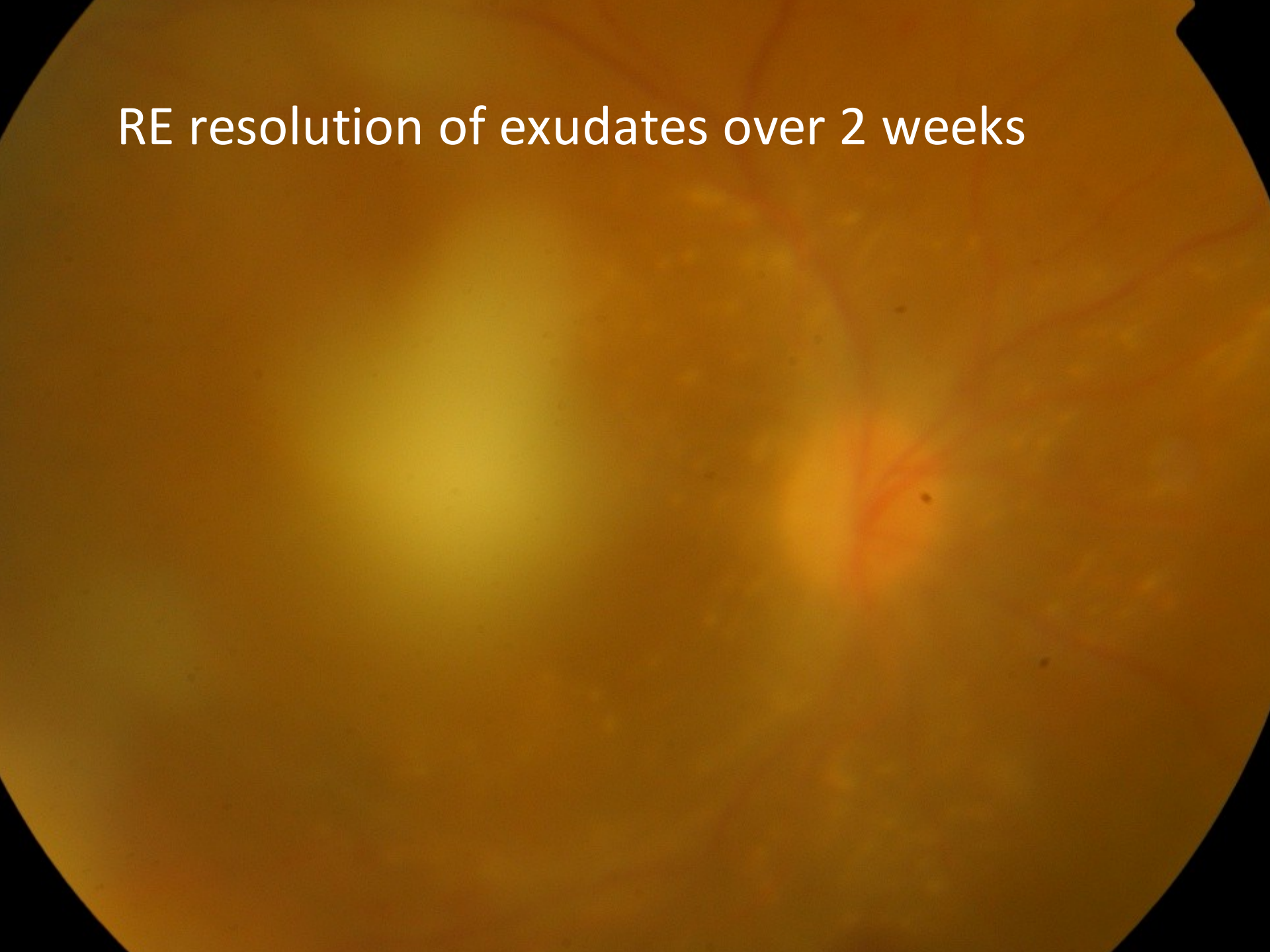
Management of endophthalmitis

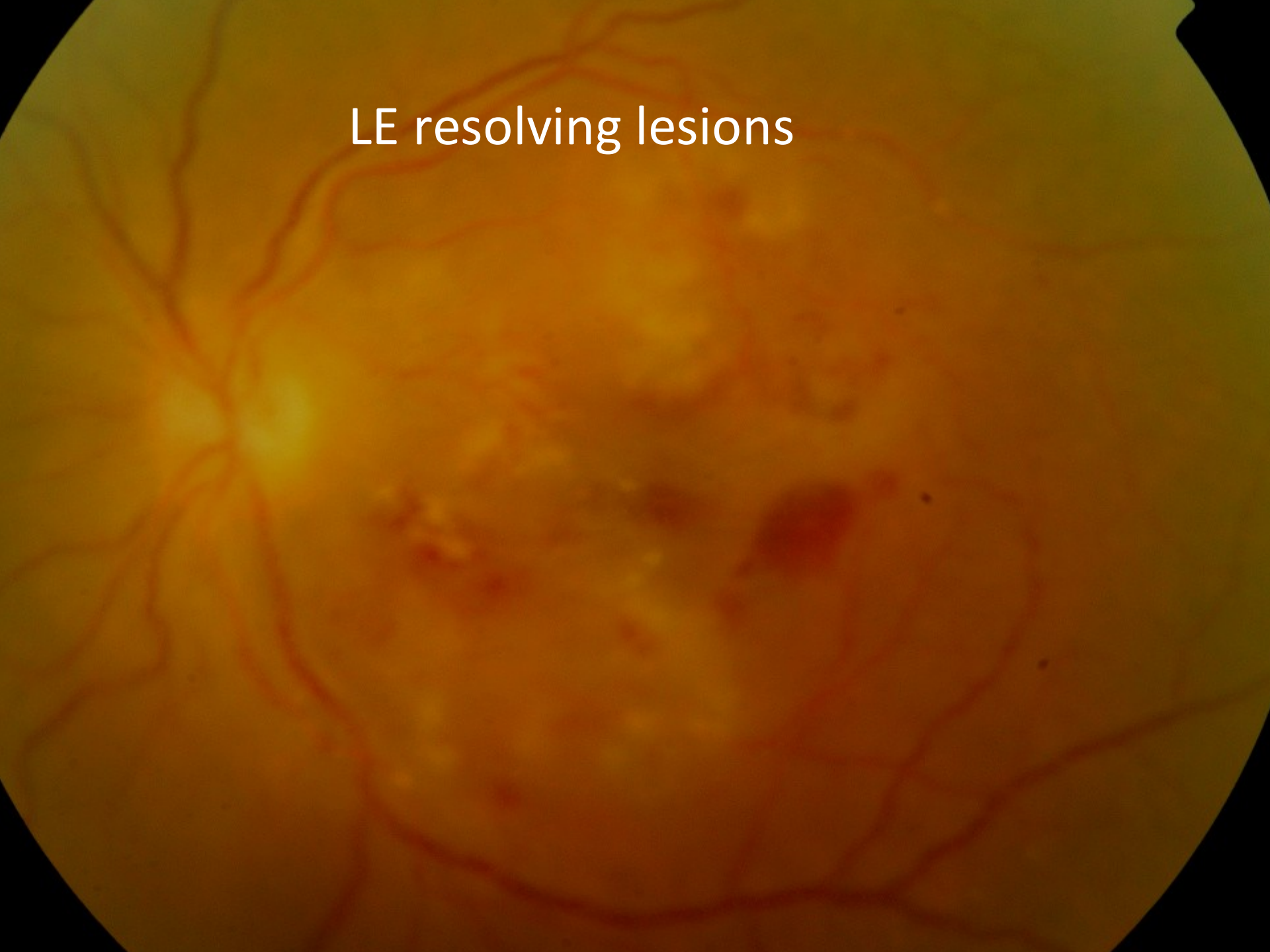
- RE Vitreous tap + intravitreal antibiotics (cefazolin and ceftazidime)
- Vitreous no growth
- Microchip DNA/RNA analysis revealed Pseudomonas species

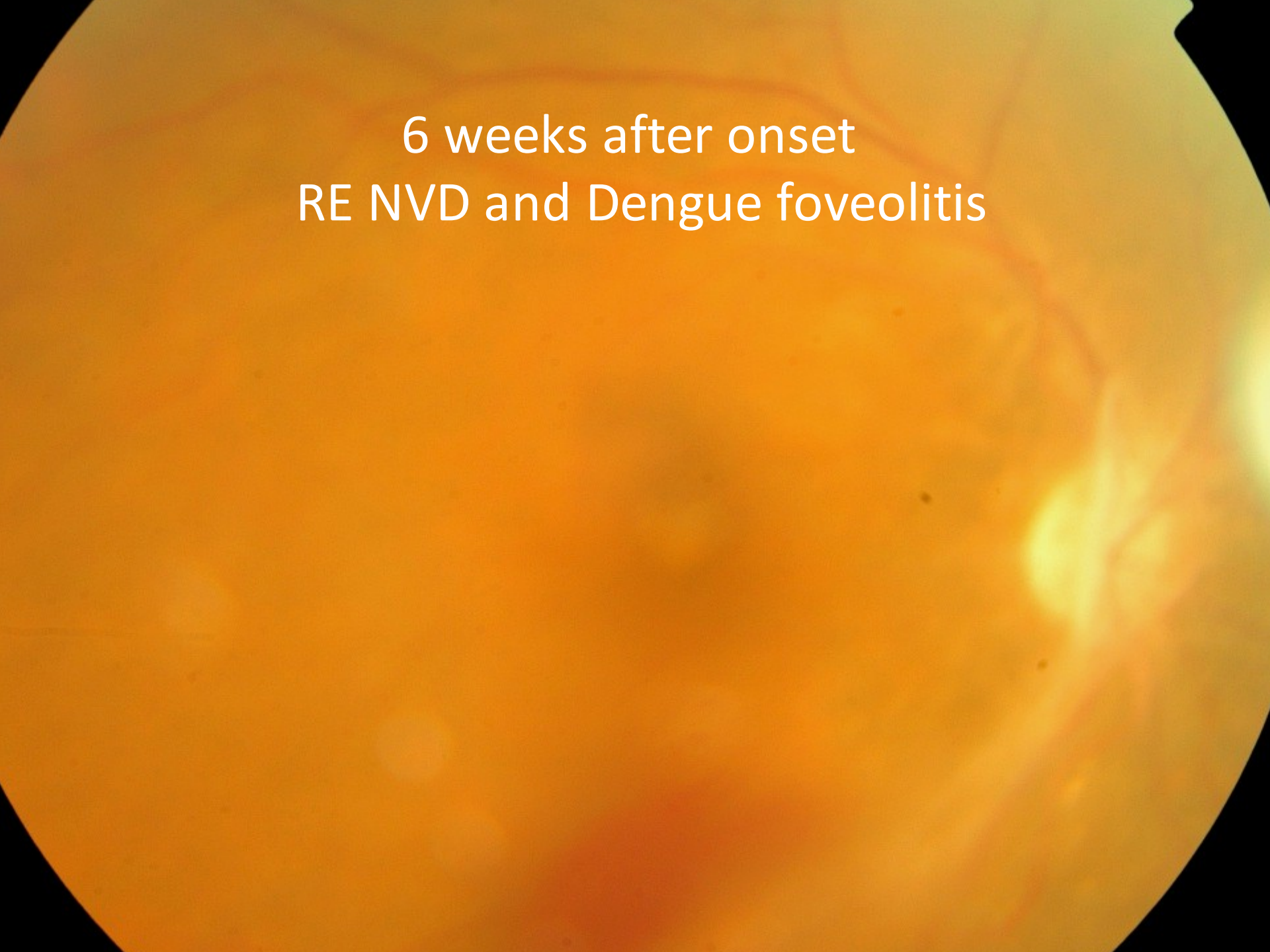
Management of endophthalmitis

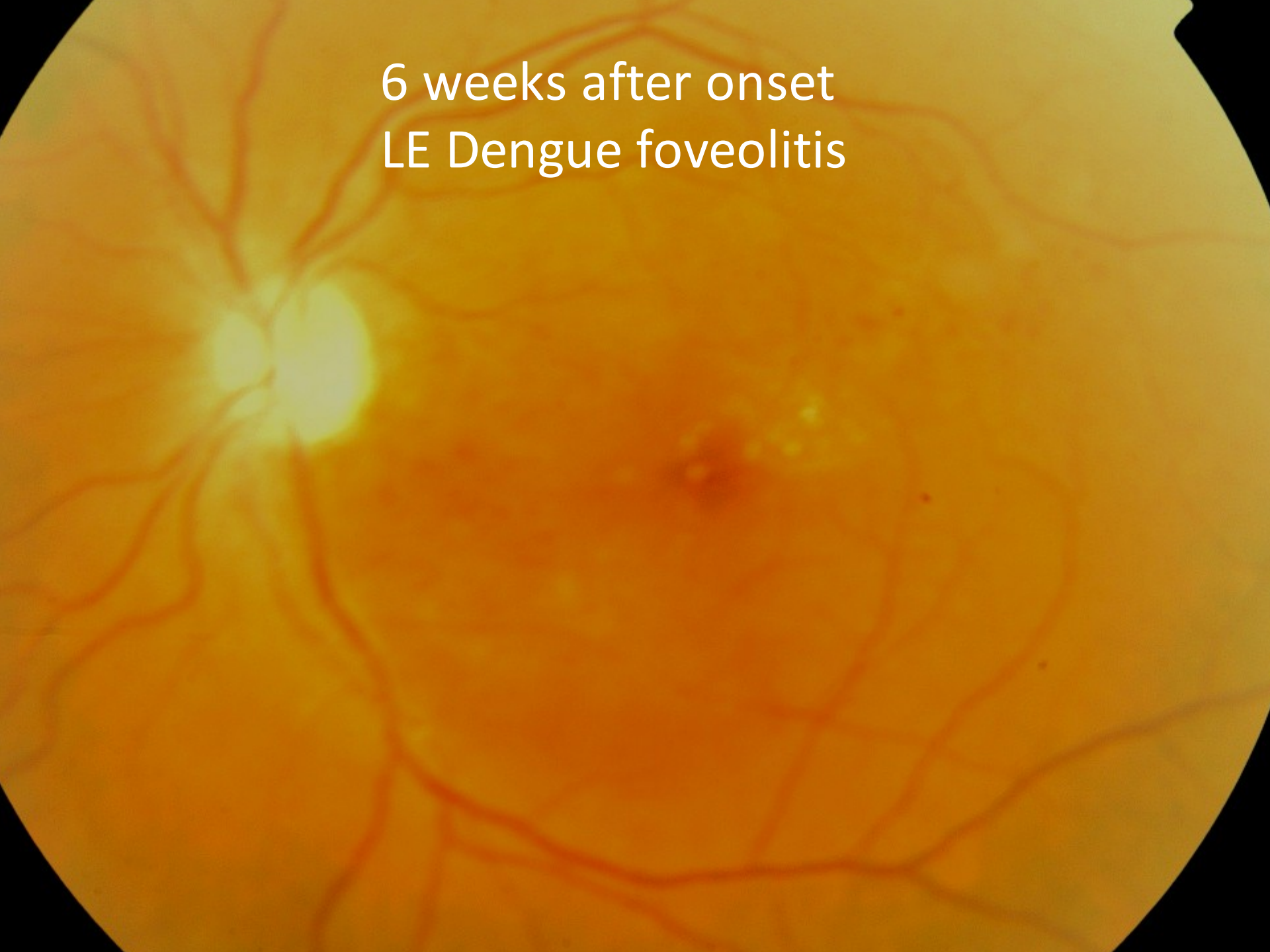
- IV antibiotics (gatifloxacin 400 mg od and dorpenem 500 mg tid) for 2 weeks followed by oral gatifloxacin for 4 weeks
- LE intravitreal ciprofloxacin and ceftazidime administered


RE increasing vitreous exudates


RE resolution of exudates over 2 weeks


LE resolving lesions

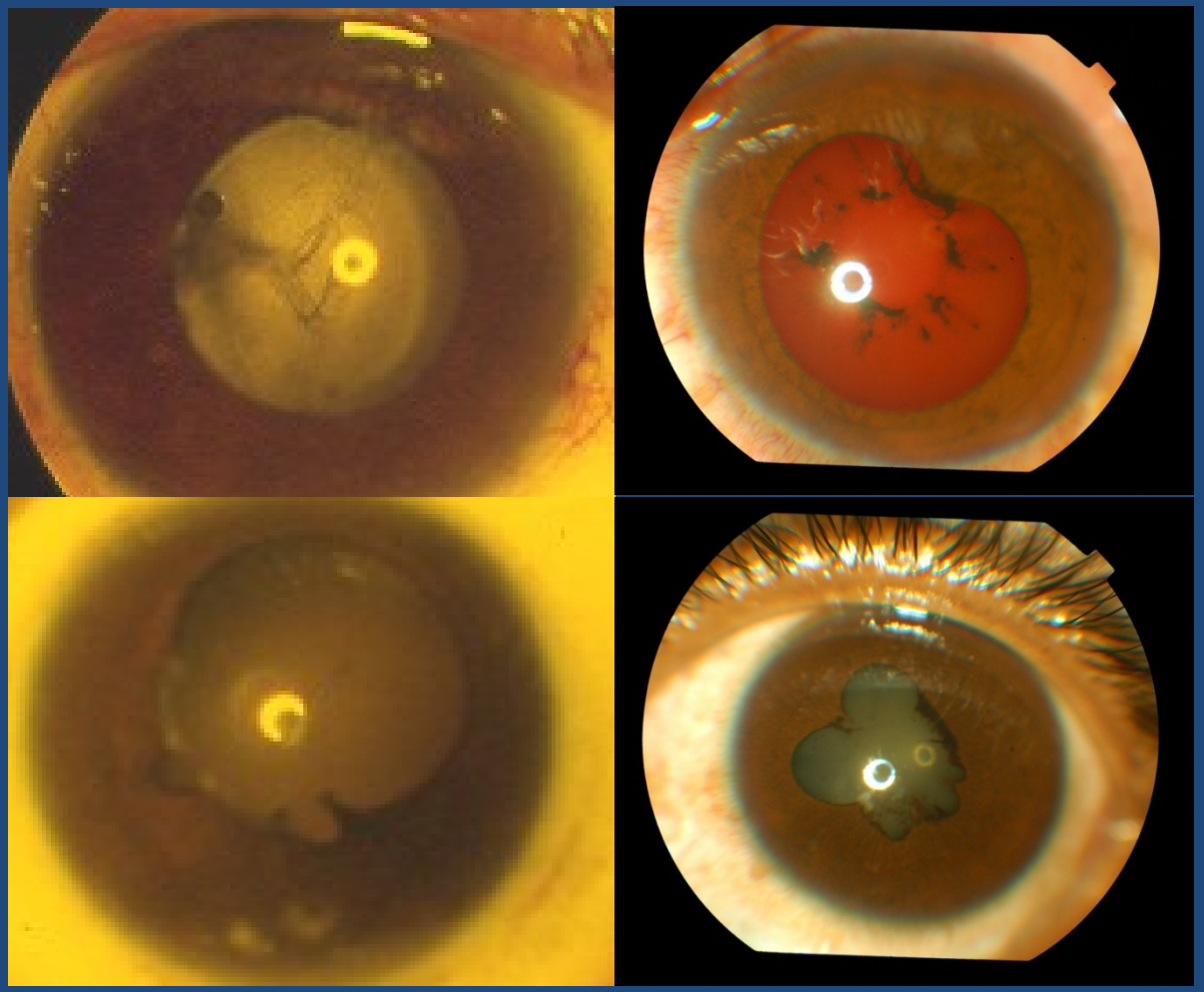

6 weeks after onset
RE NVD and Dengue foveolitis


6 weeks after onset
LE Dengue foveolitis


3 months later, florid NVD, vitreous heme

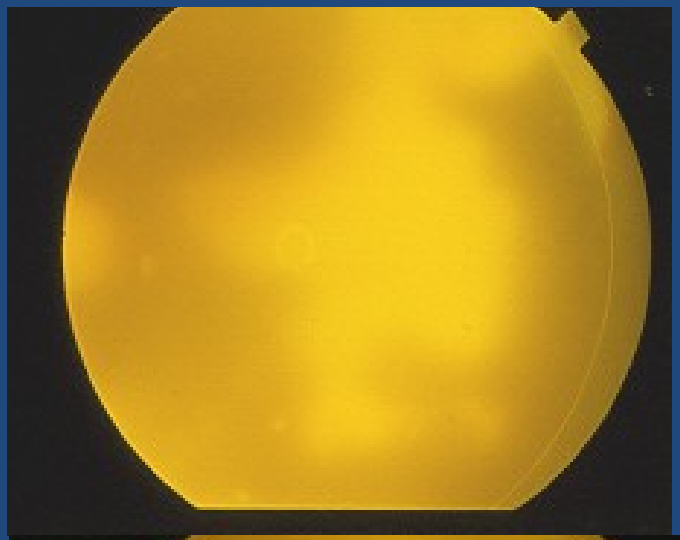
CMV infection

CMV- associated anterior uveitis

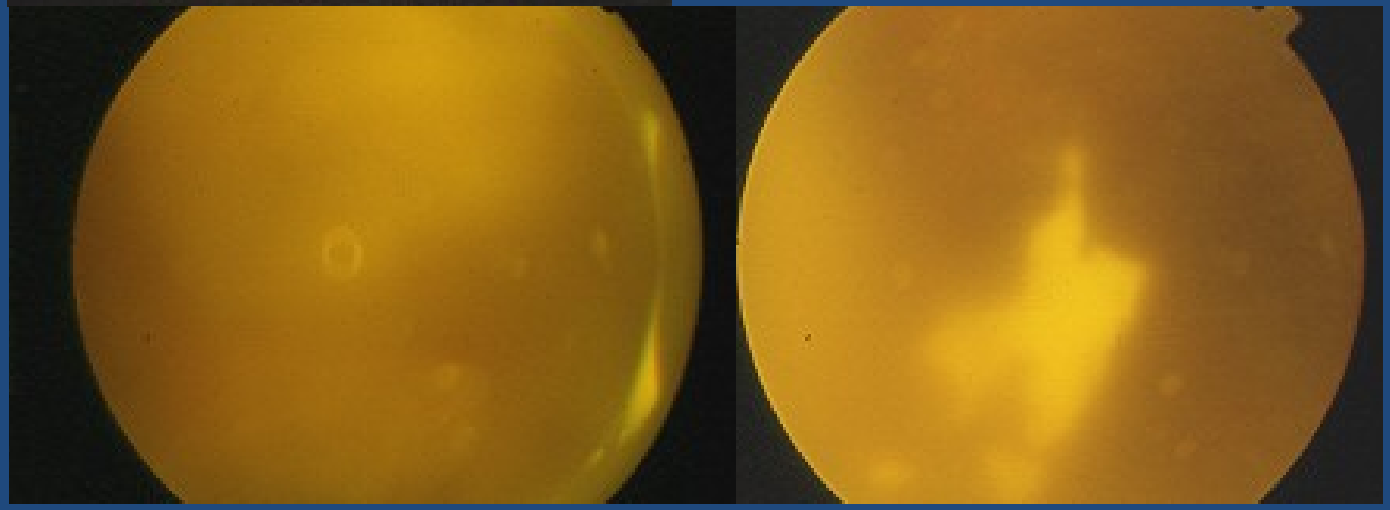


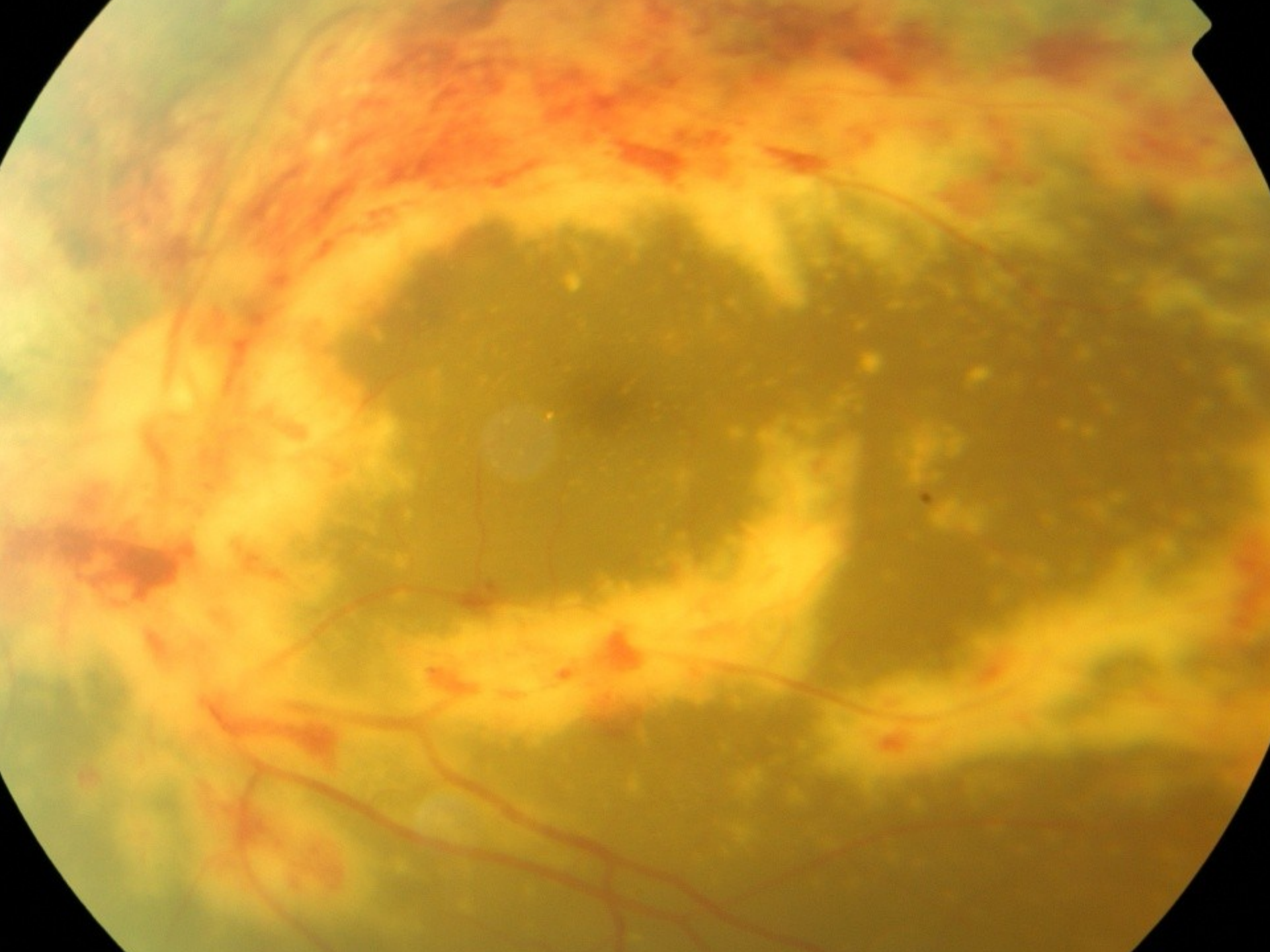
CMV- associated anterior uveitis

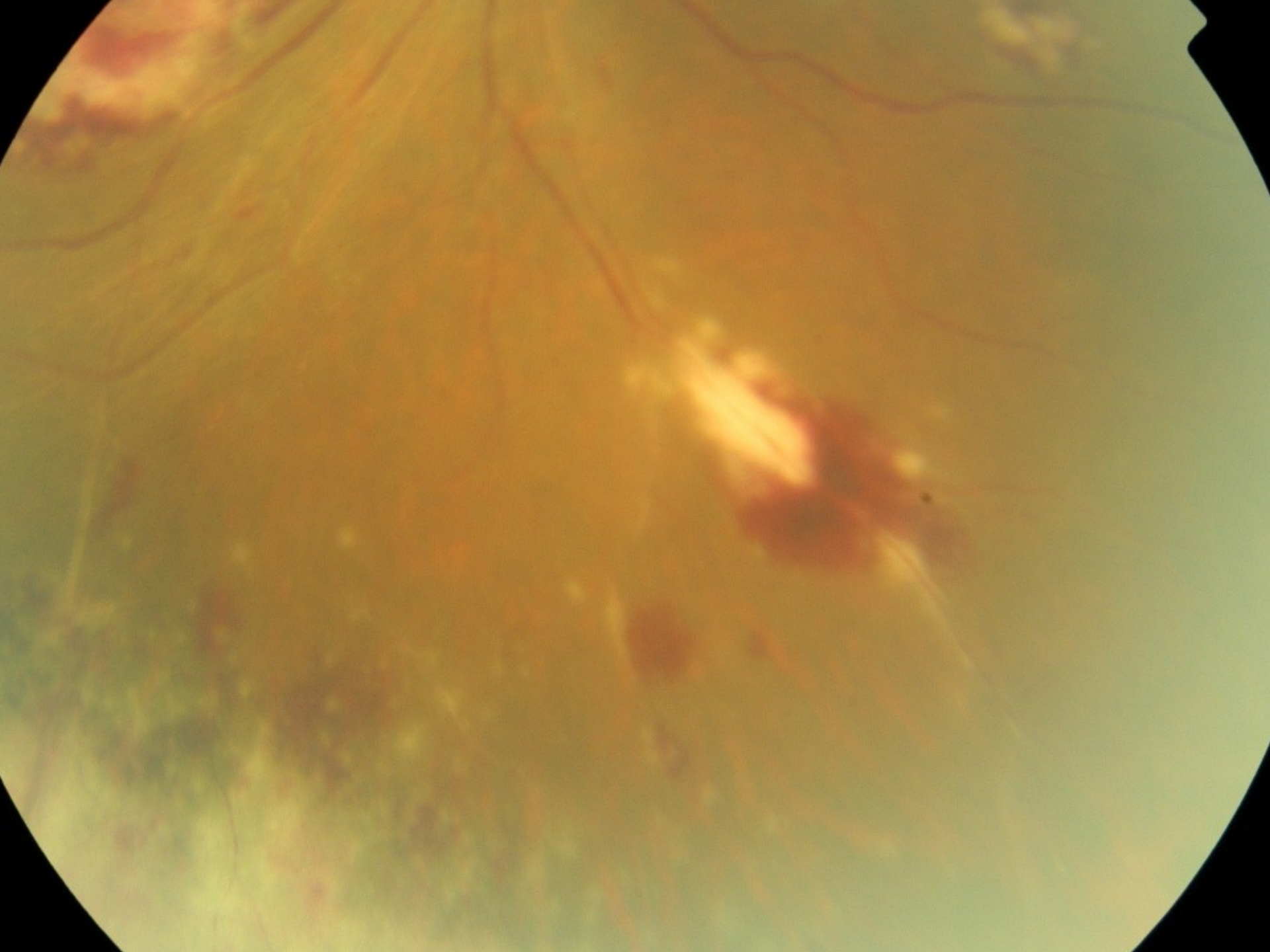
- Without accompanying retinitis
- Moderate CD4 counts (60-80)
- Very high risk of developing retinitis
- Close-follow-up



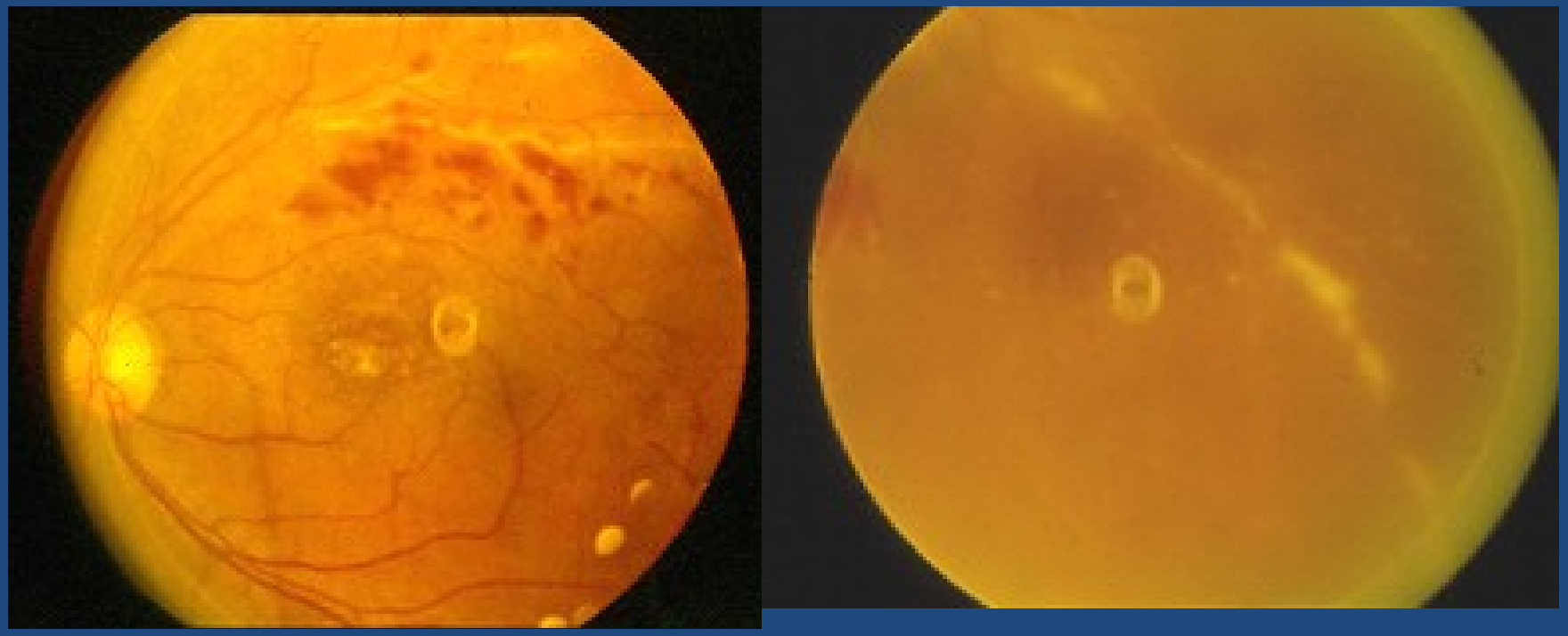
Severe Vitreitis with CMV retinitis



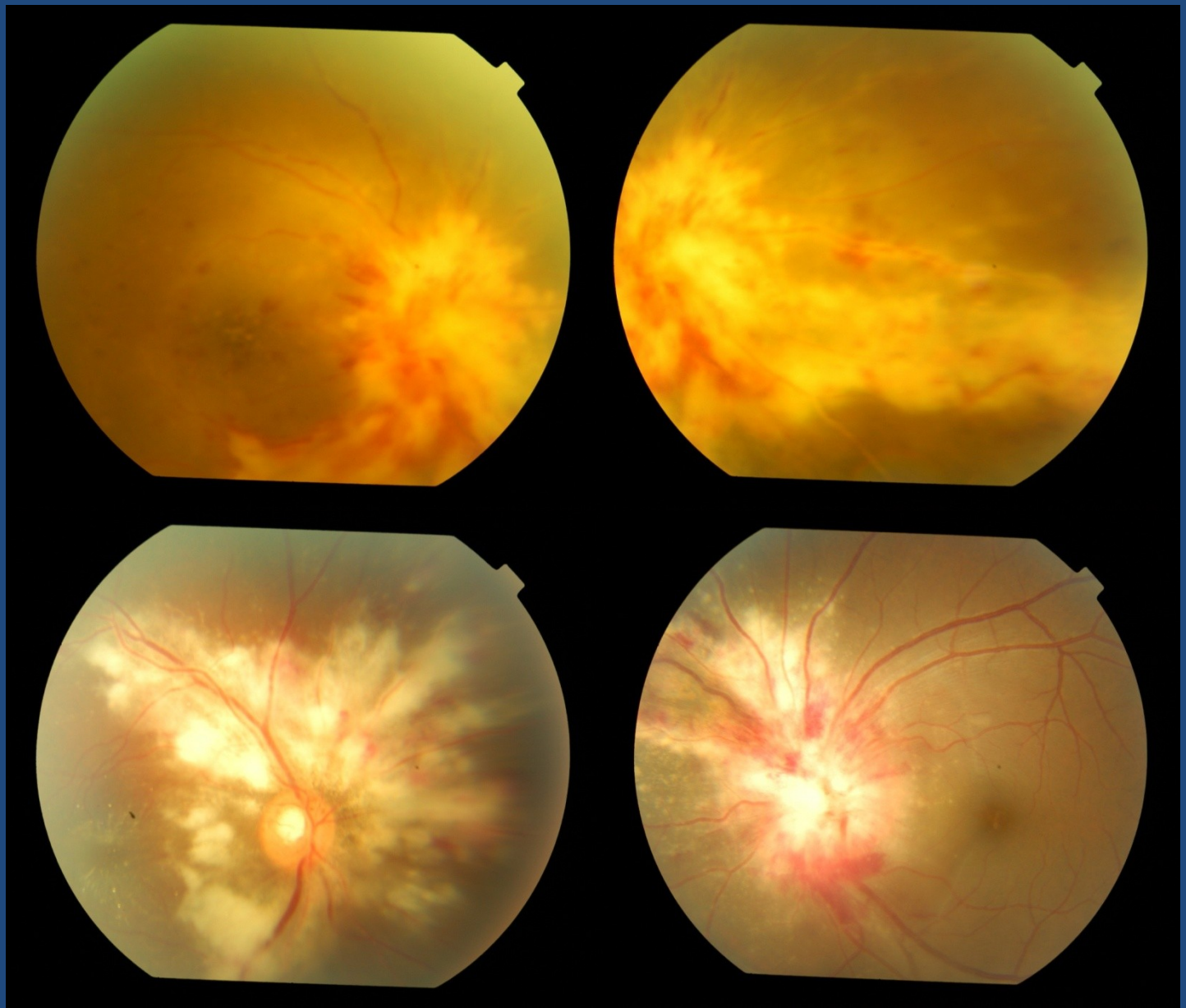




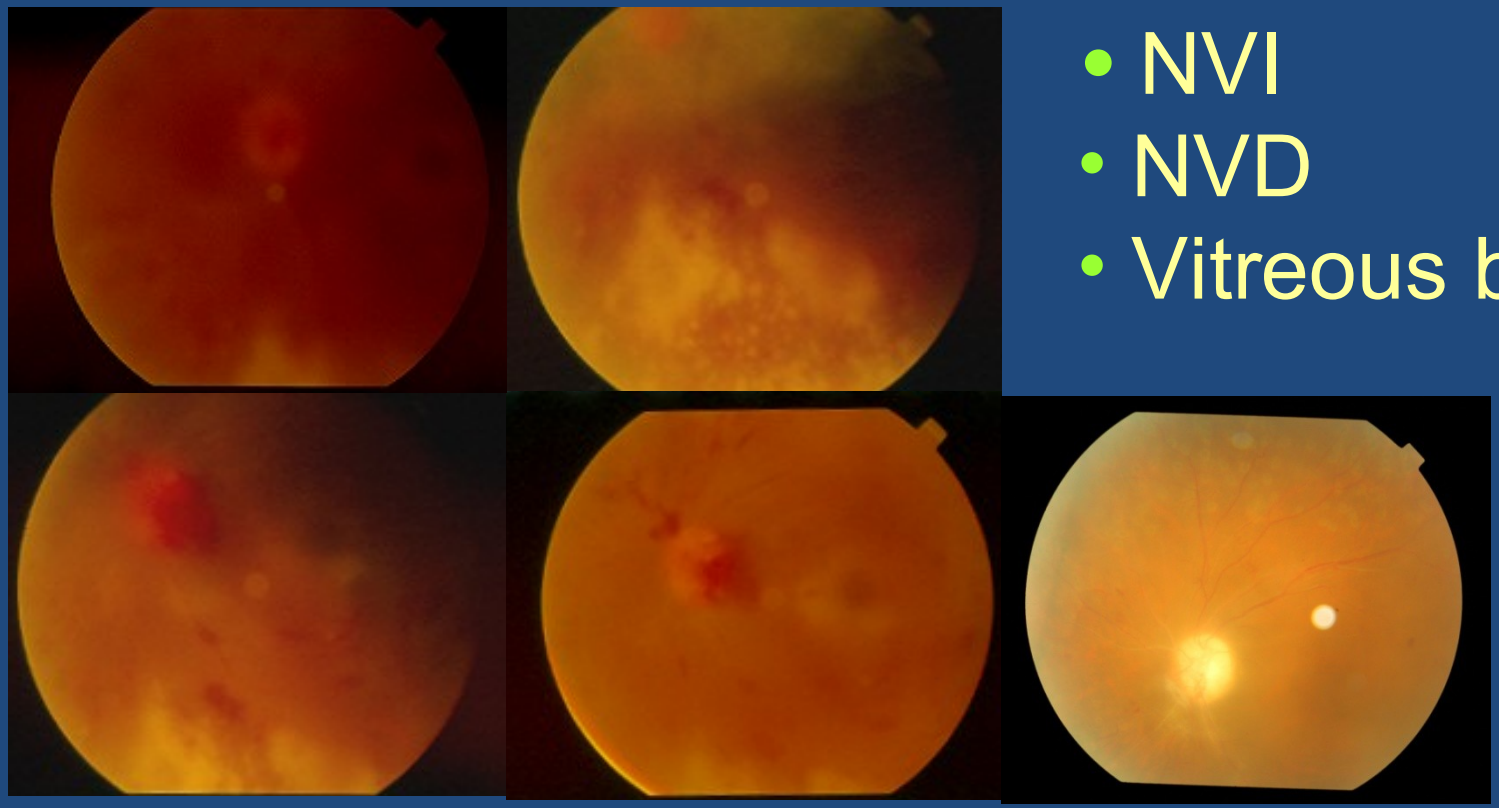
CMV Retinal Vasculitis



CMV neuroretinitis

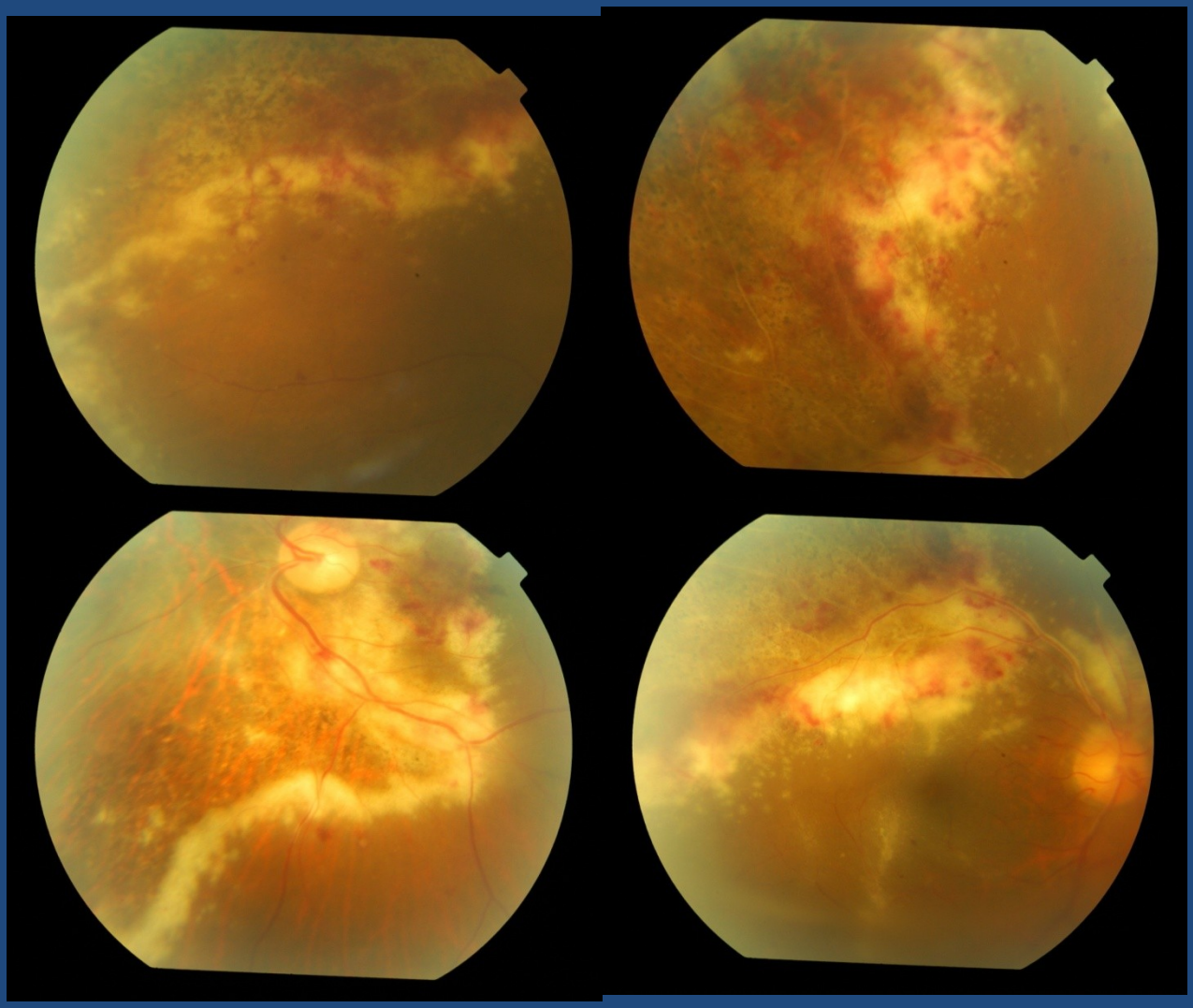


Proliferative retinopathy

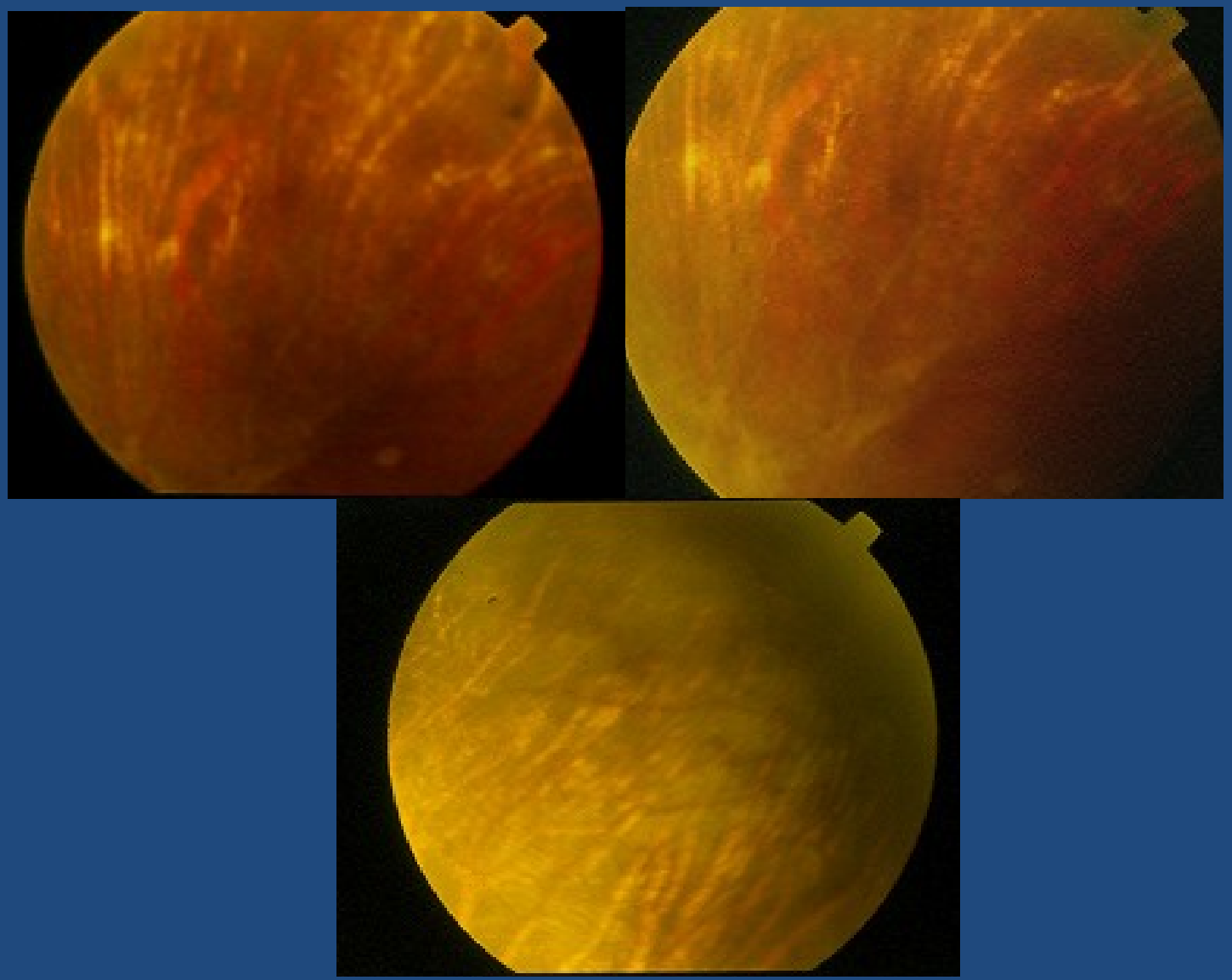


- NVI
- NVD
- Vitreous bleed

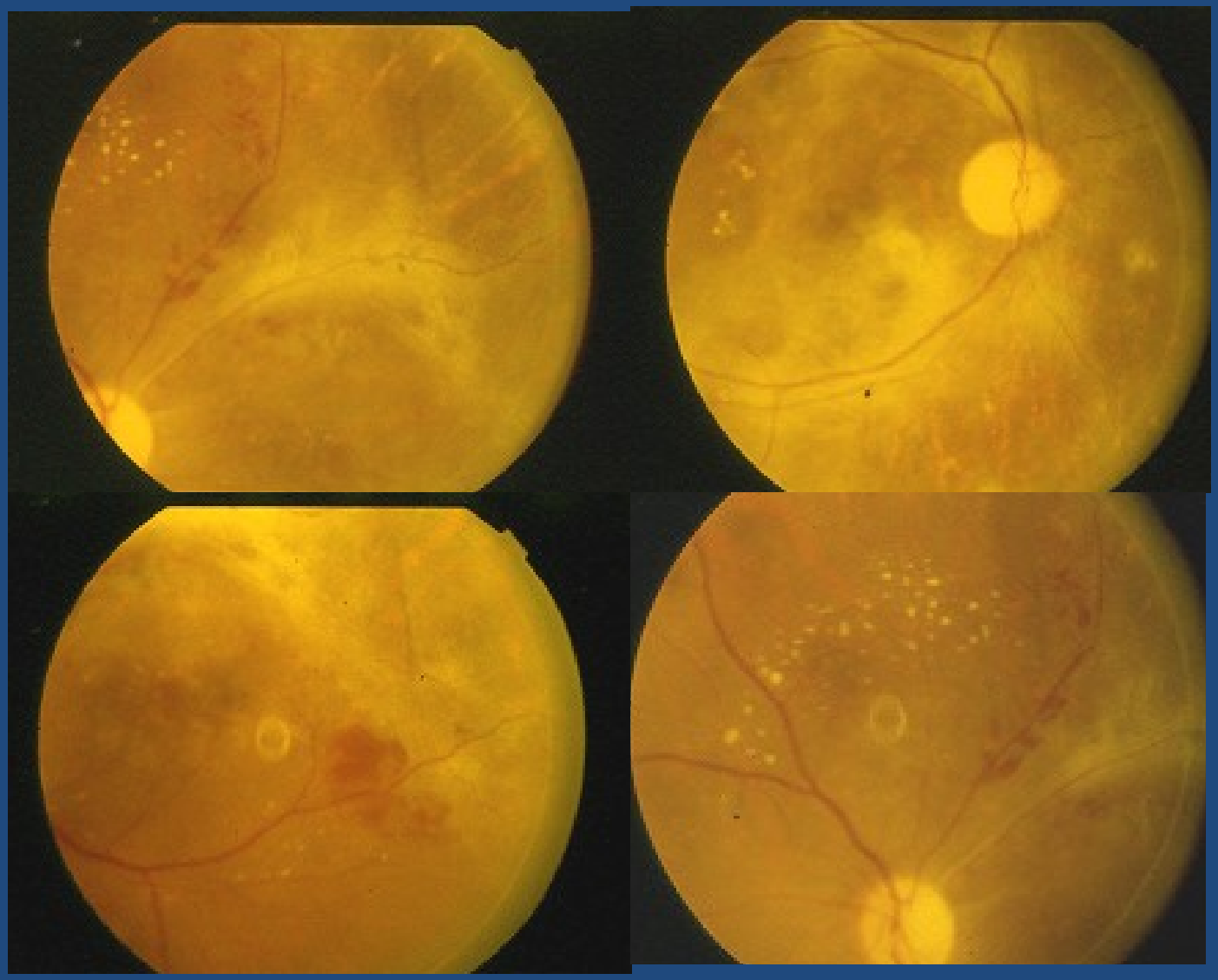
Reactivation at edges

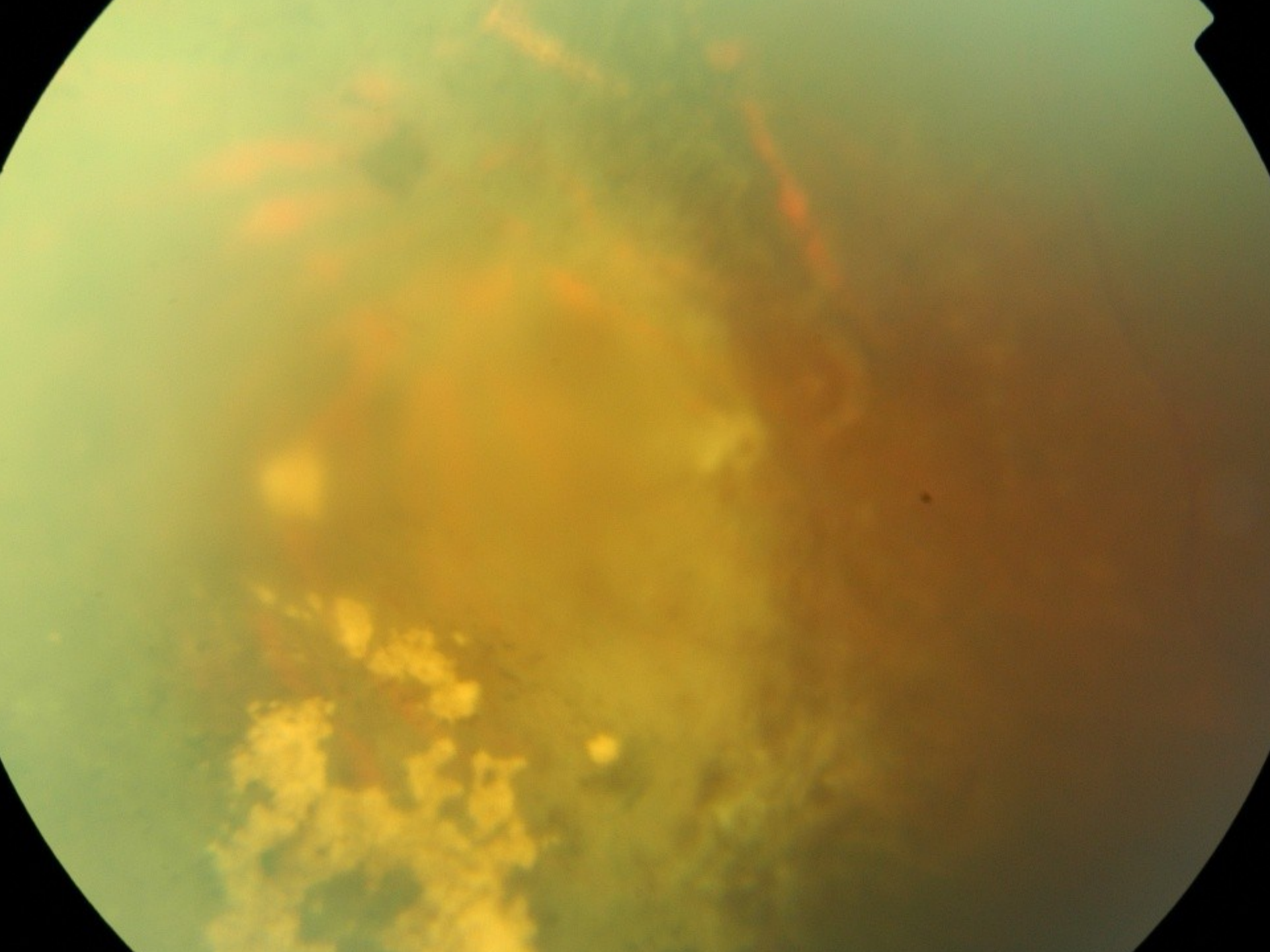


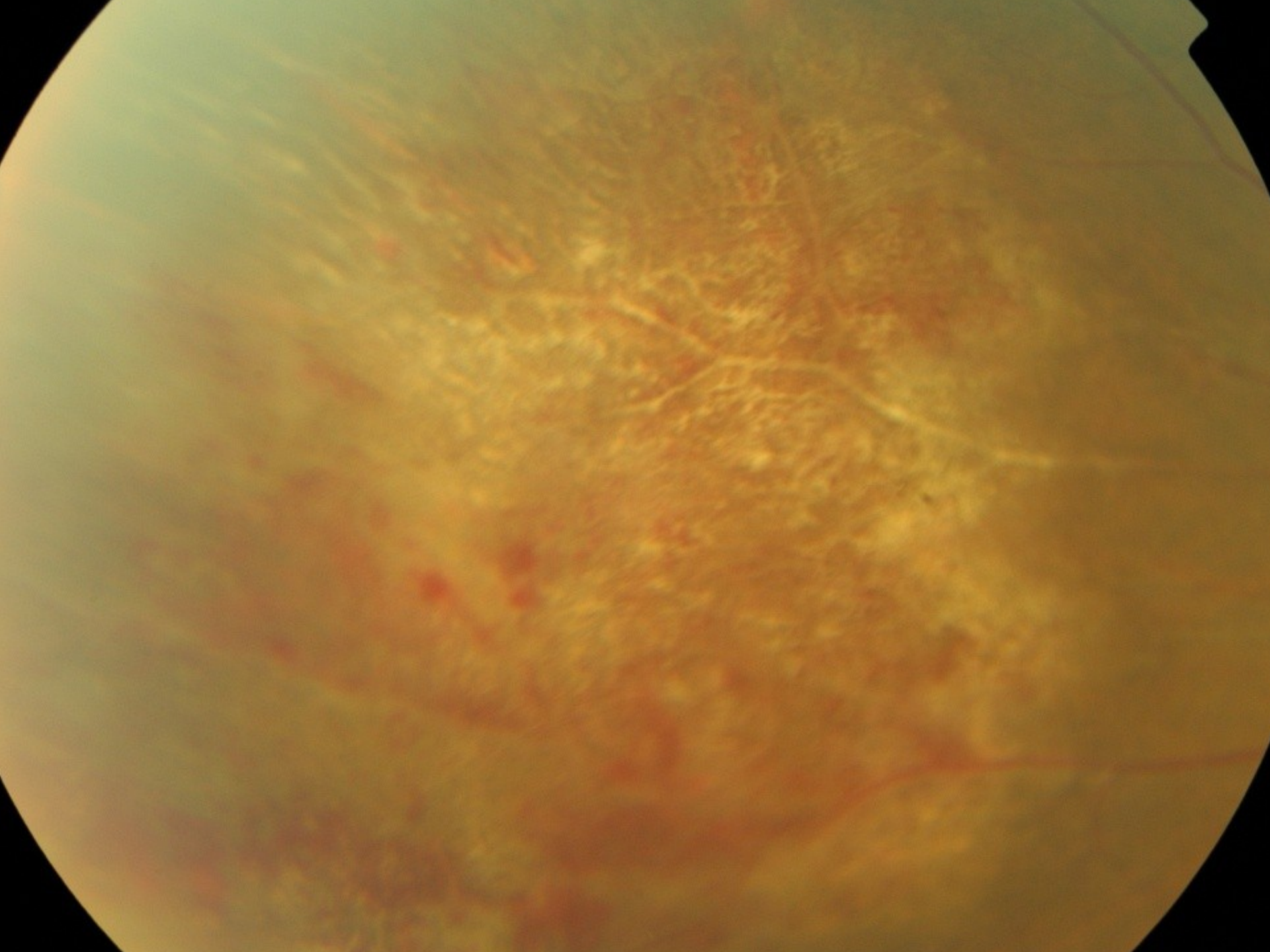
Resolved retinitis

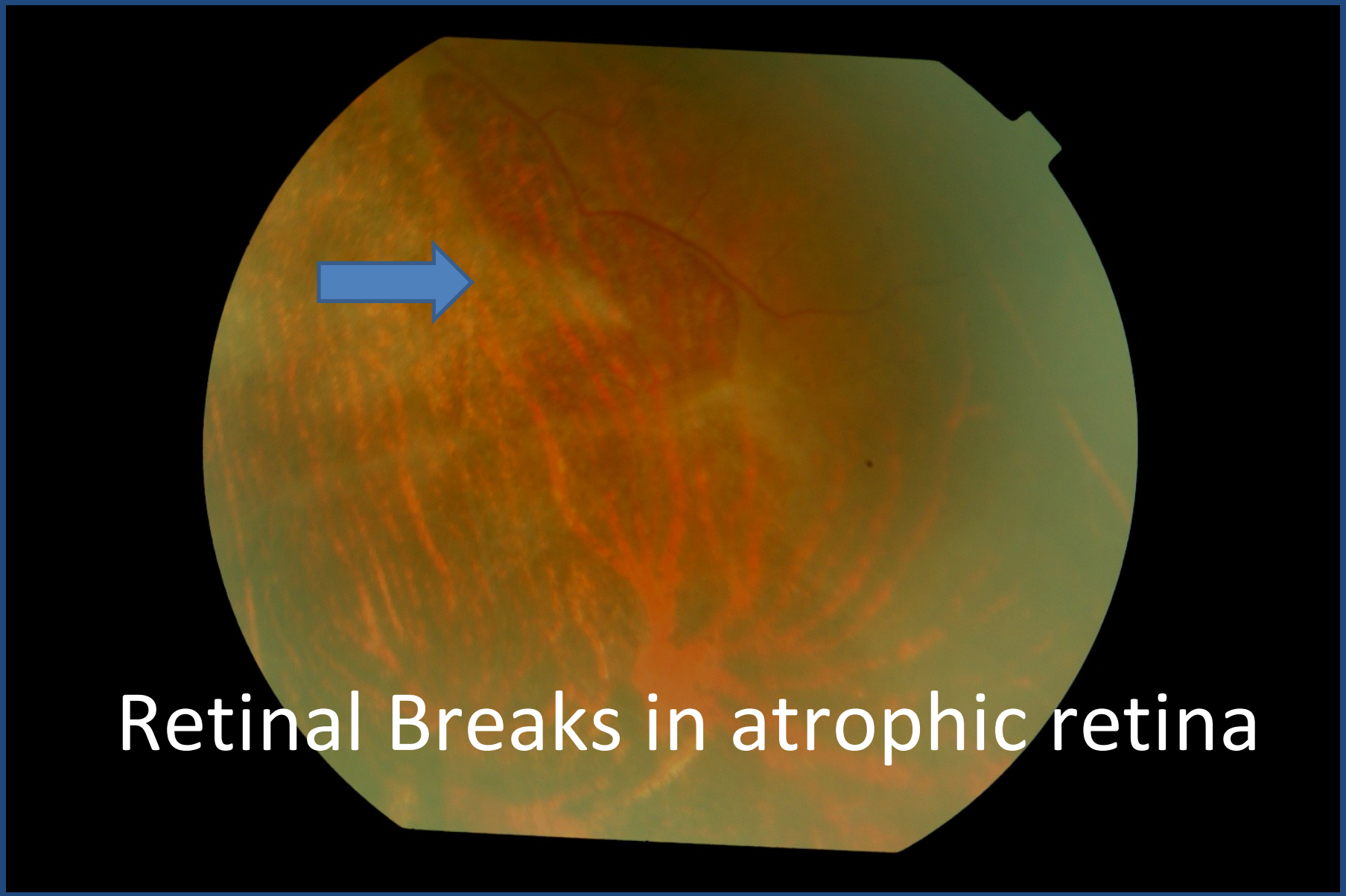


Resolved Retinitis

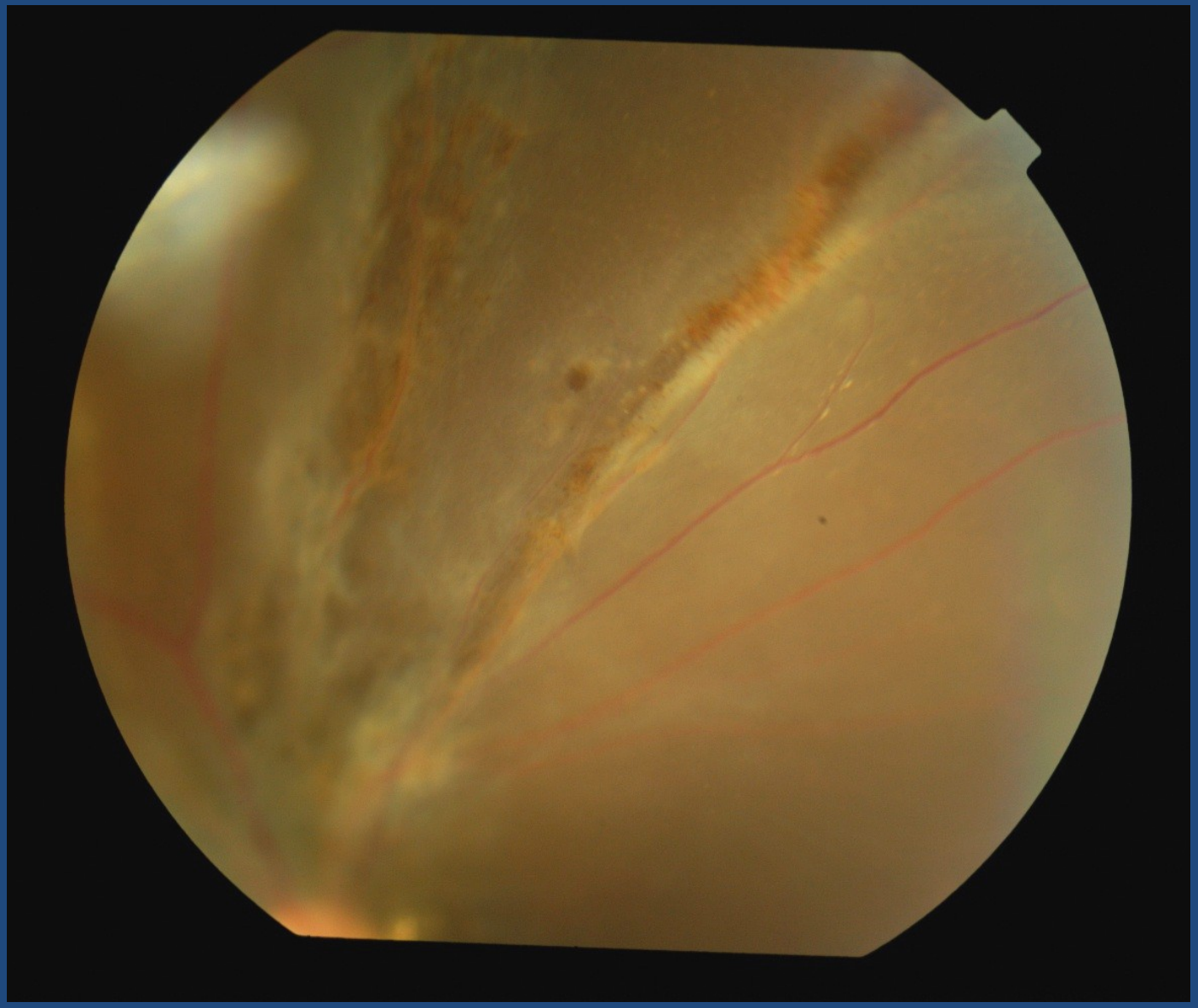






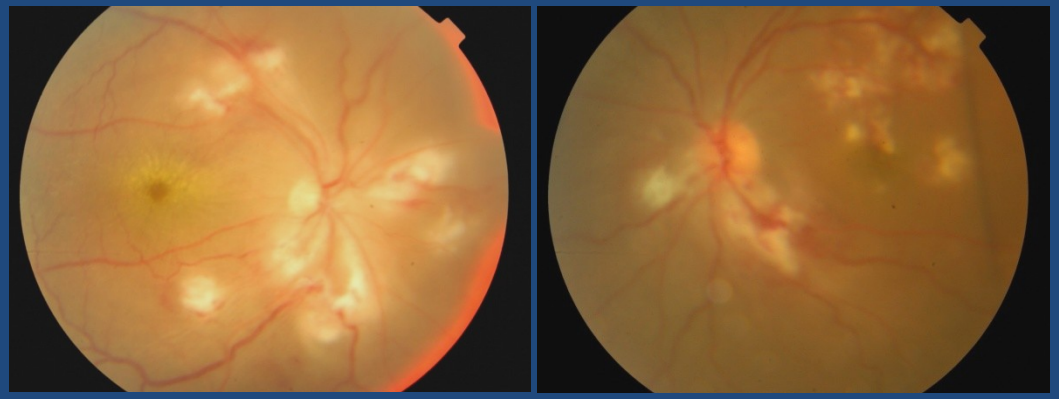

Retinal Breaks in atrophic retina

RD with CMV Retinitis



Endogenous Endophthalmitis

- 19 yo boy had meningitis a month prior
- Csf was culture negative
- Both eyes multiple retinal haemorrhages and abscesses with trace vitreous cells

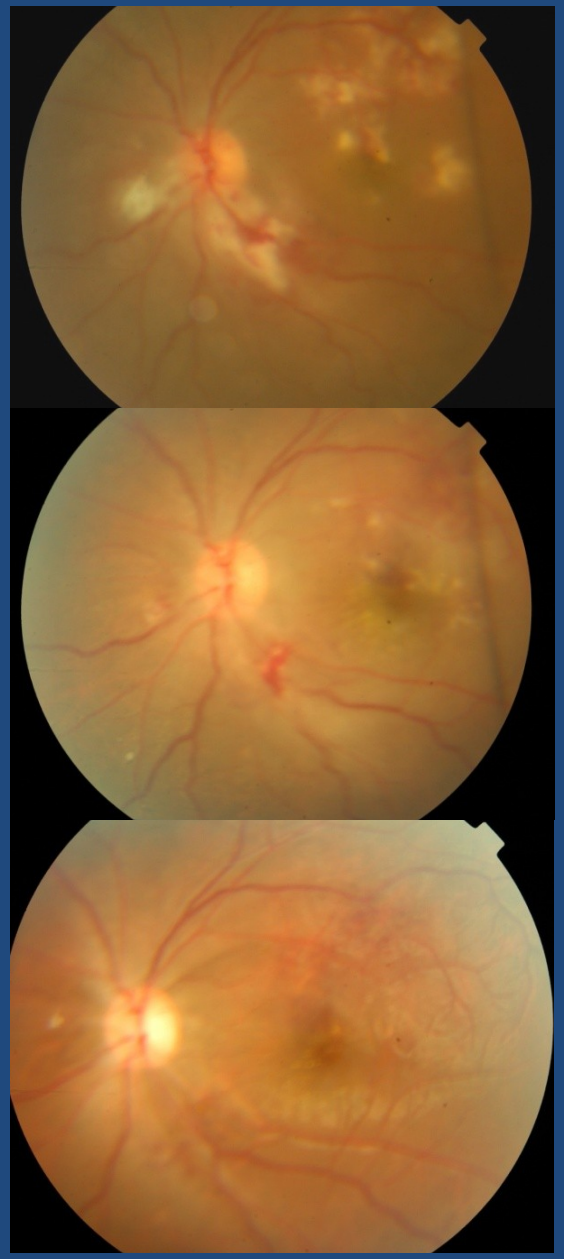


Case

- Haemophilus influenzae or Streptococcus pneumoniae (commonly associated with meningitis)
- Oral levofloxacin 750 mg daily (excellent ocular bioavailability) x 8 weeks
- LE intravitreal cefazolin & ceftazidime

RE

LE



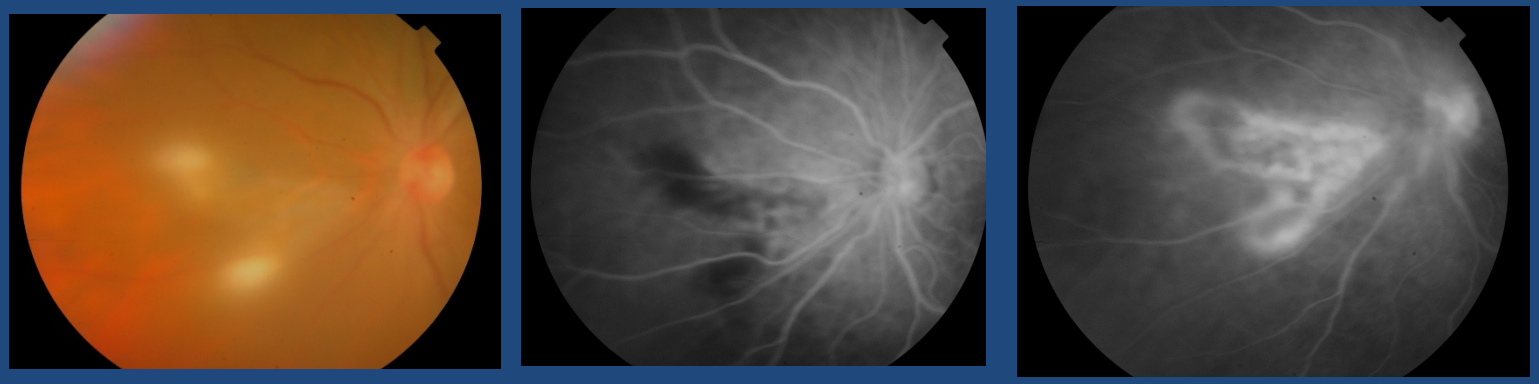
Complete resolution over 8 weeks;

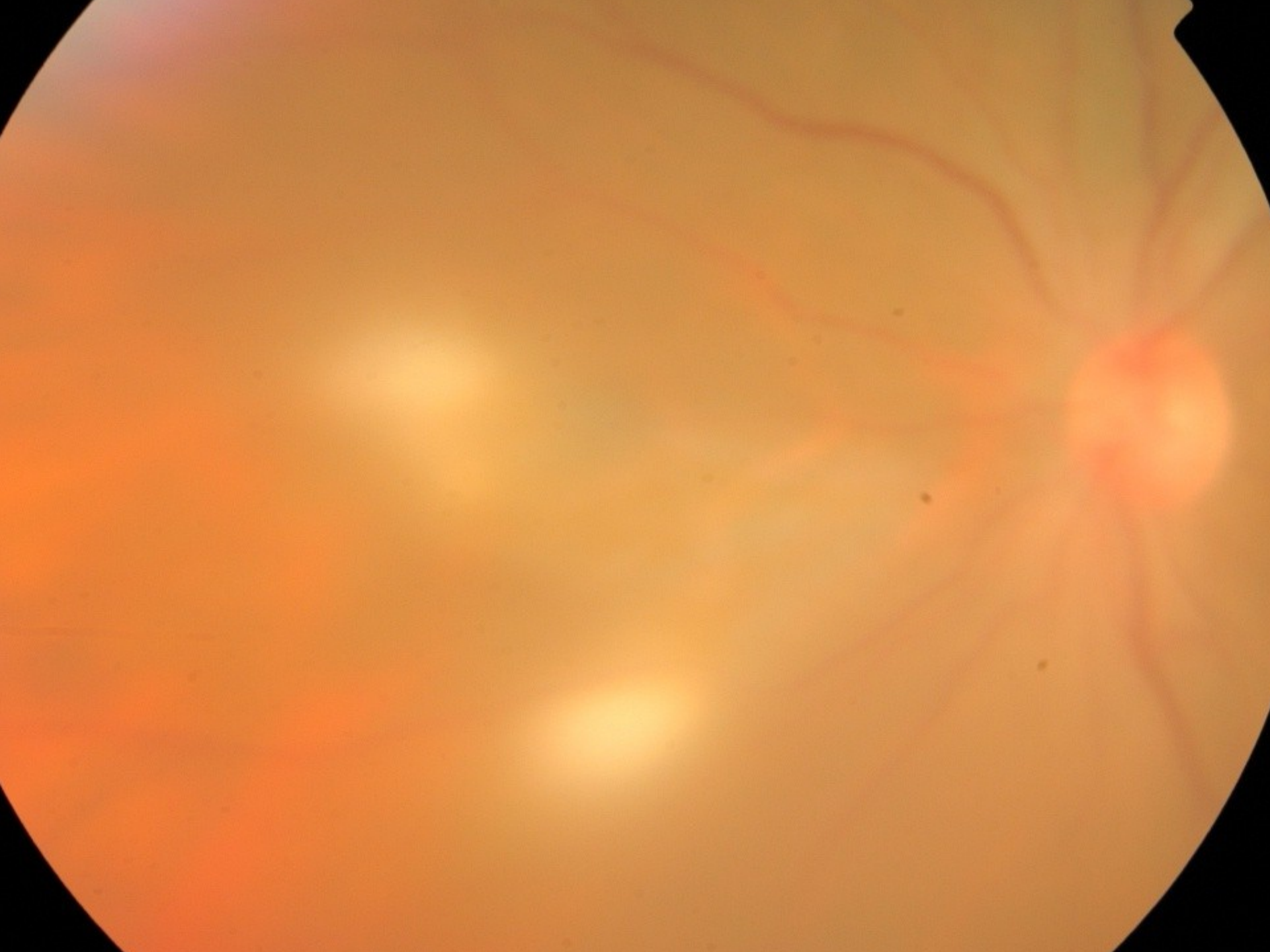
RE without ocular intervention

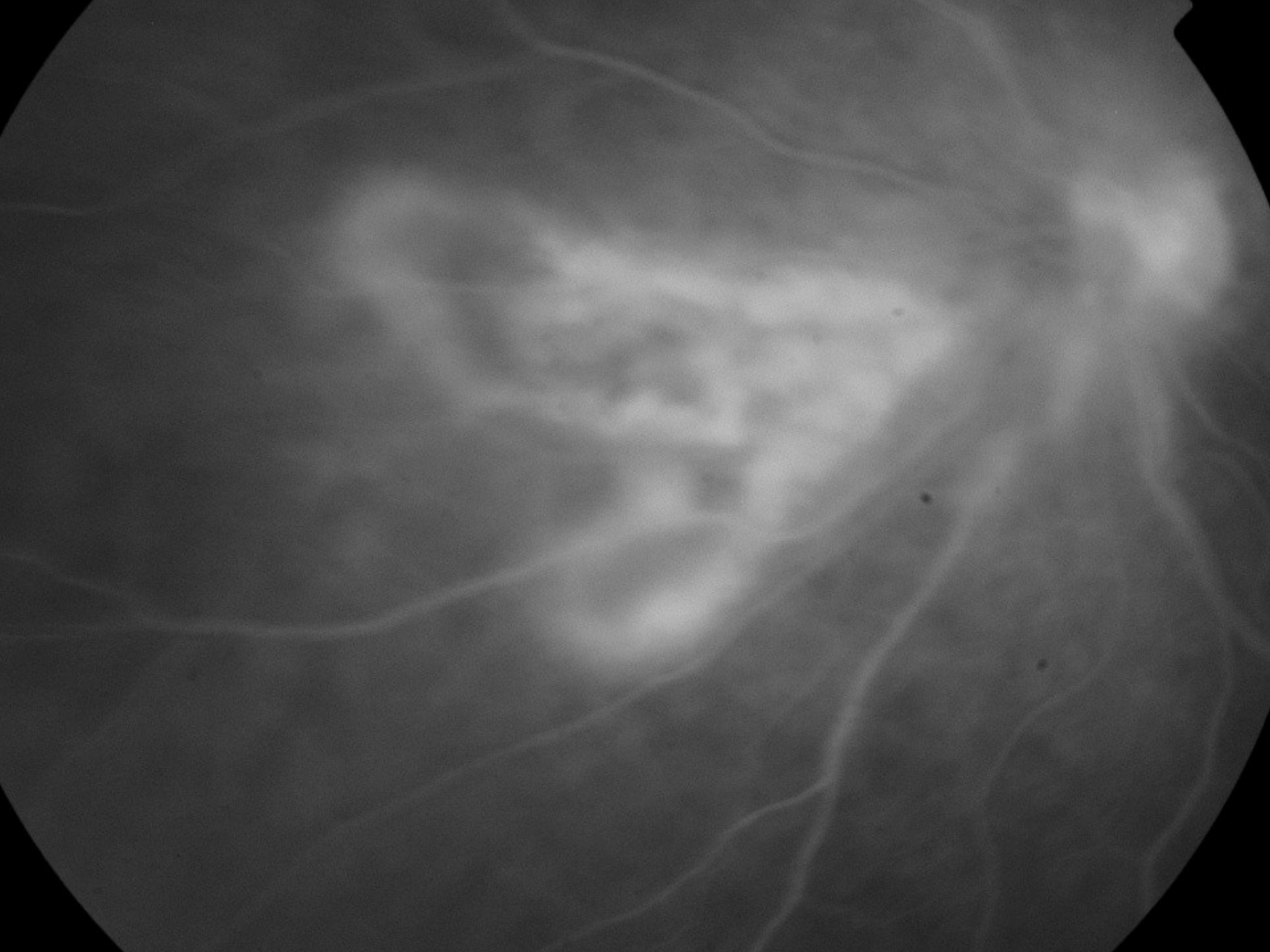
20/20 each eye

Case

- A diabetic 65 y.o. lady with no systemic infections presented with LE blur for 4 weeks
- Fluorescein angiography was characteristic

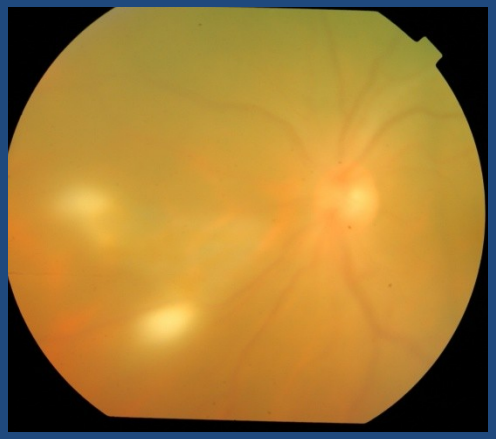


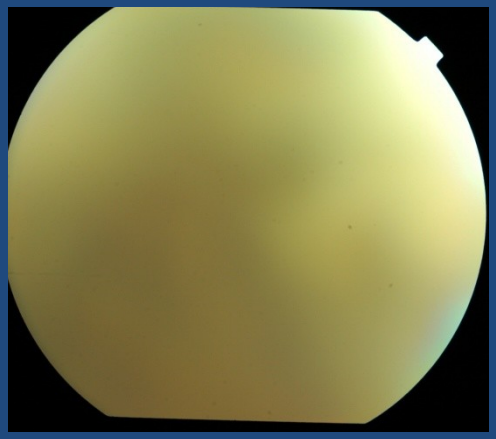




Case

- Oral levofloxacin 750 mg daily
- Vitreous tap with antimicrobials injection
- Vitreous exudates increased





Case

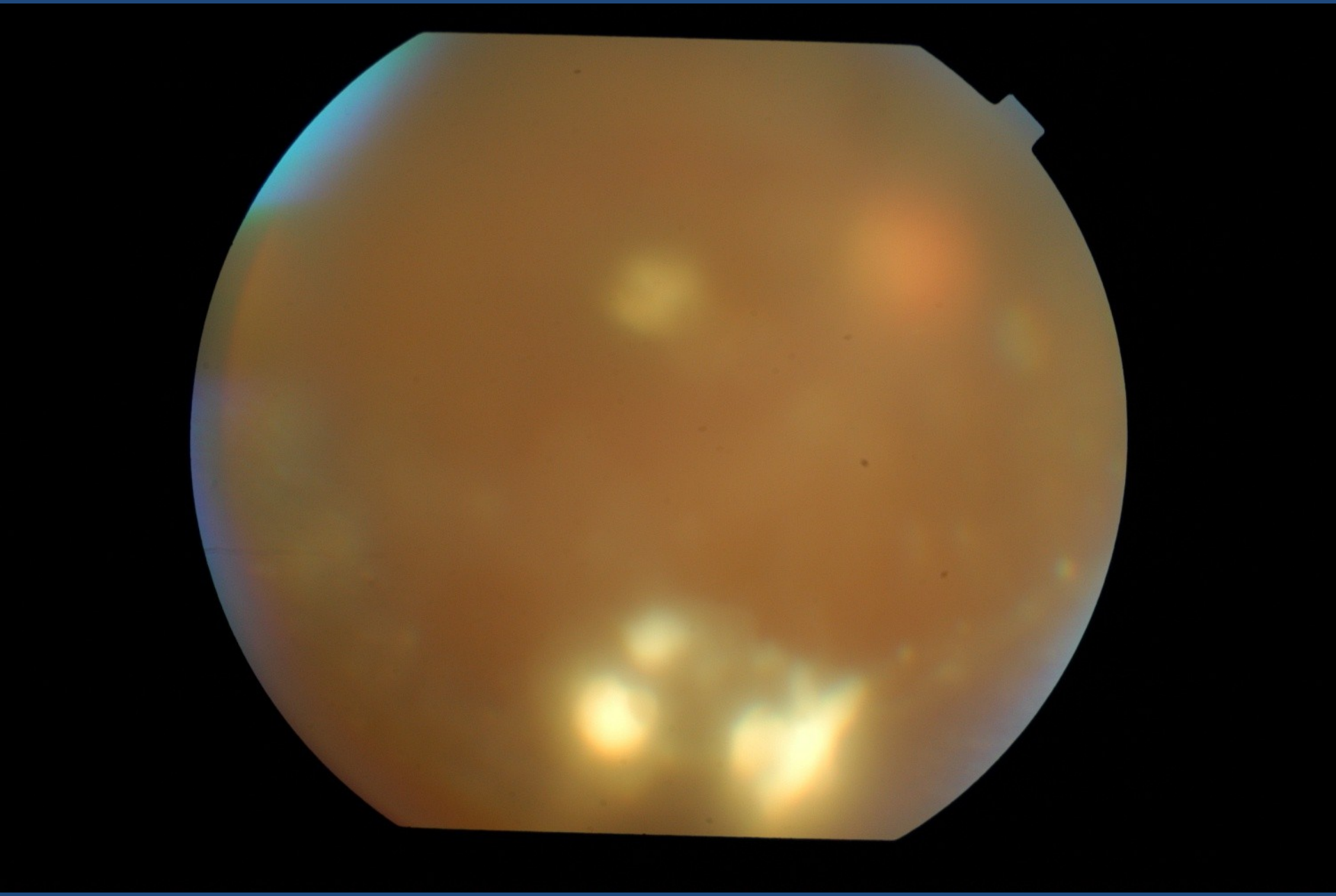
- Vitrectomy with repeat intravitreal antimicrobials
- At 2 weeks vitreous cleared
- Oral Levofloxacin for a total of 6 weeks

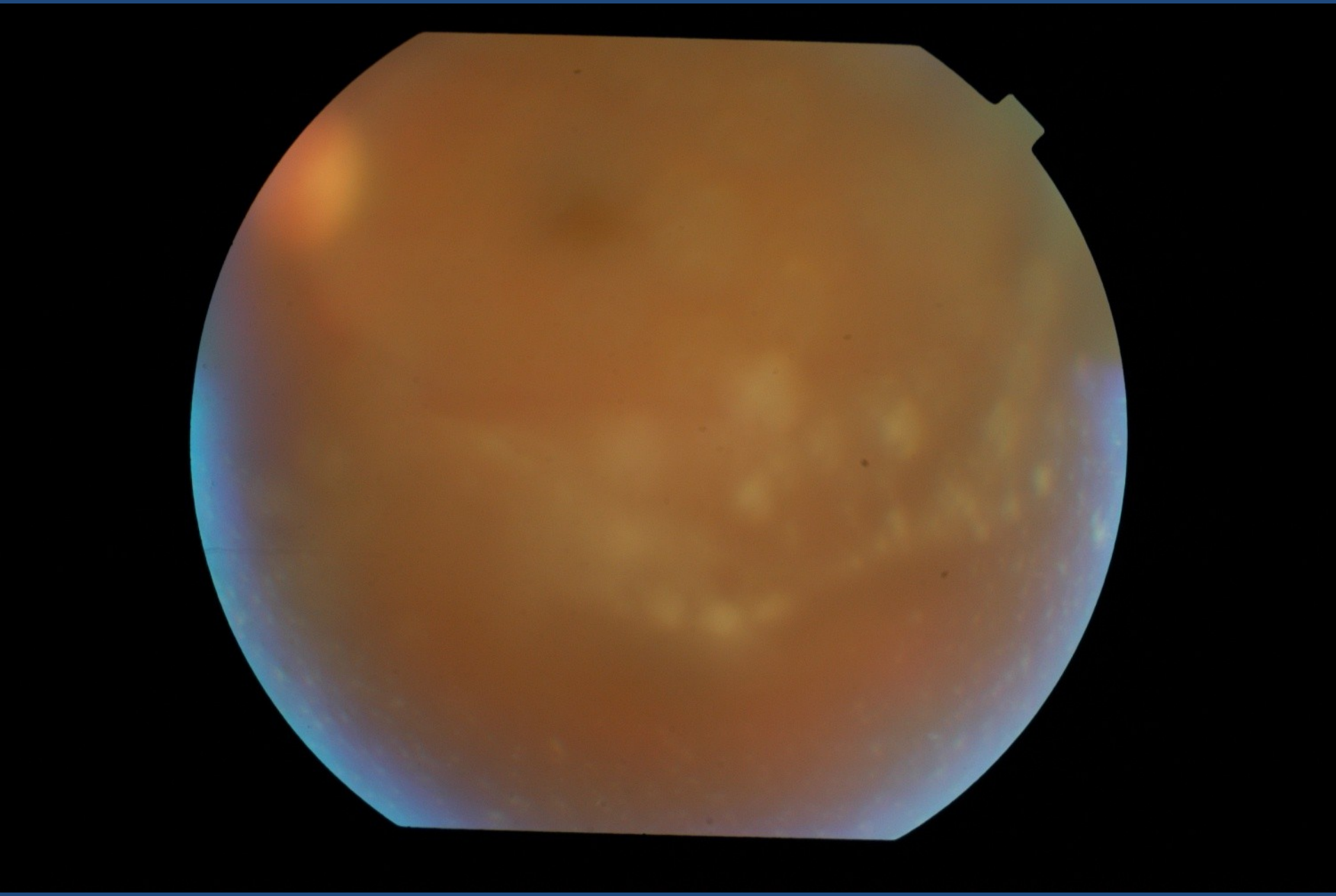

4 weeks post-vitrectomy


8 weeks post-vitrectomy

Case

- 76 yo gentleman
- Diabetic
- Recurrent Urinary Tract Infection
- Bilateral vision drop one week



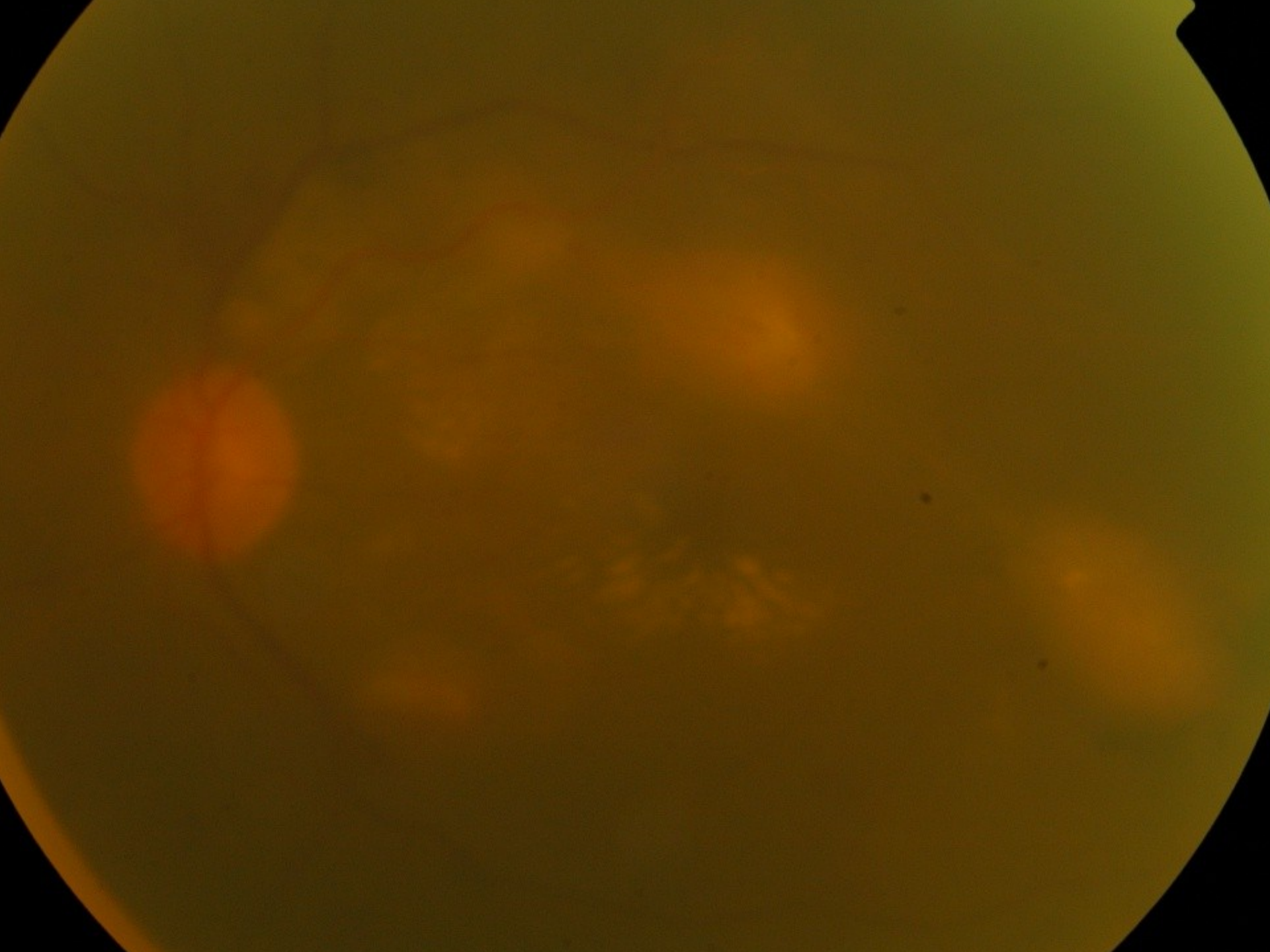


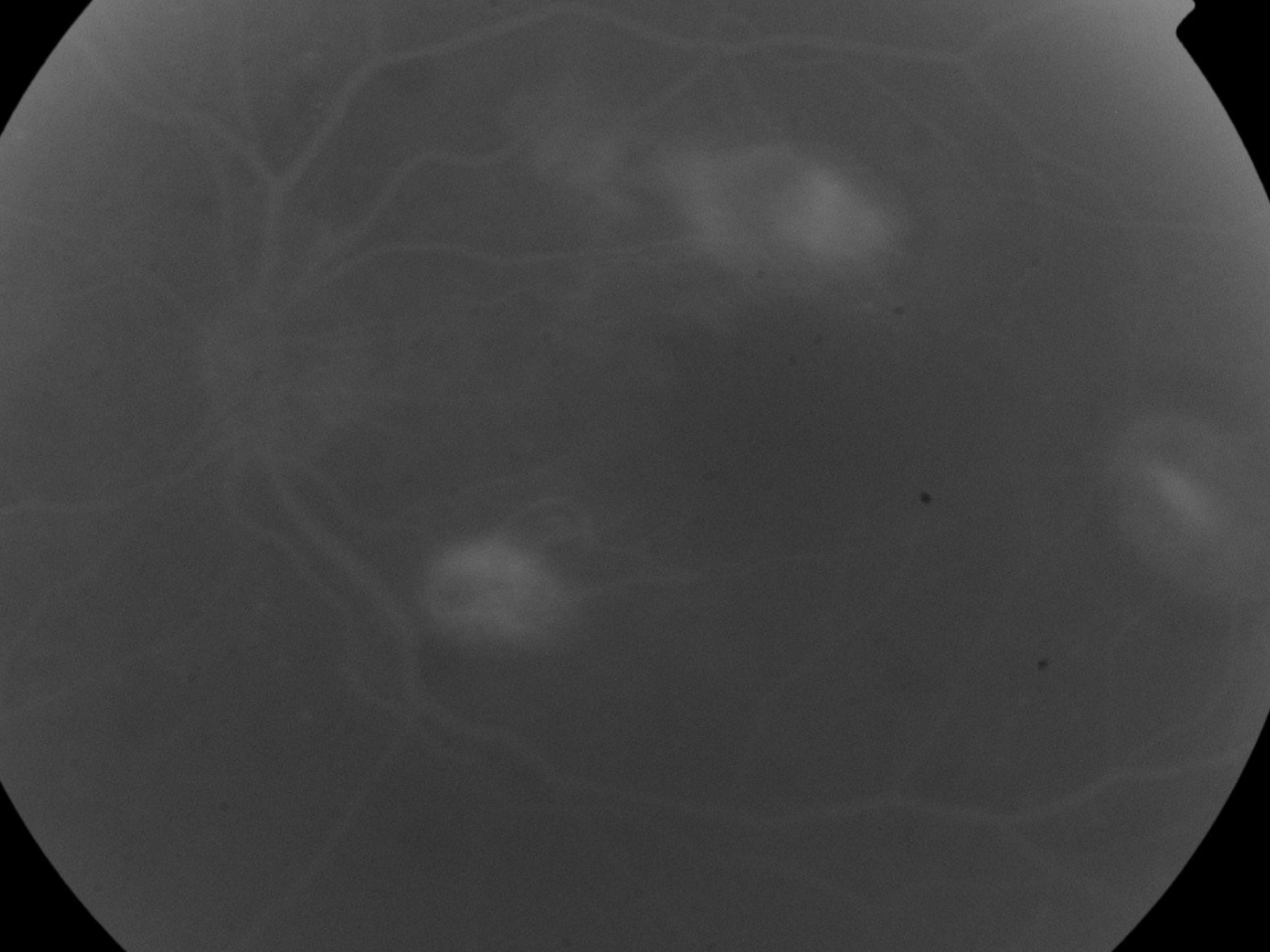
Case

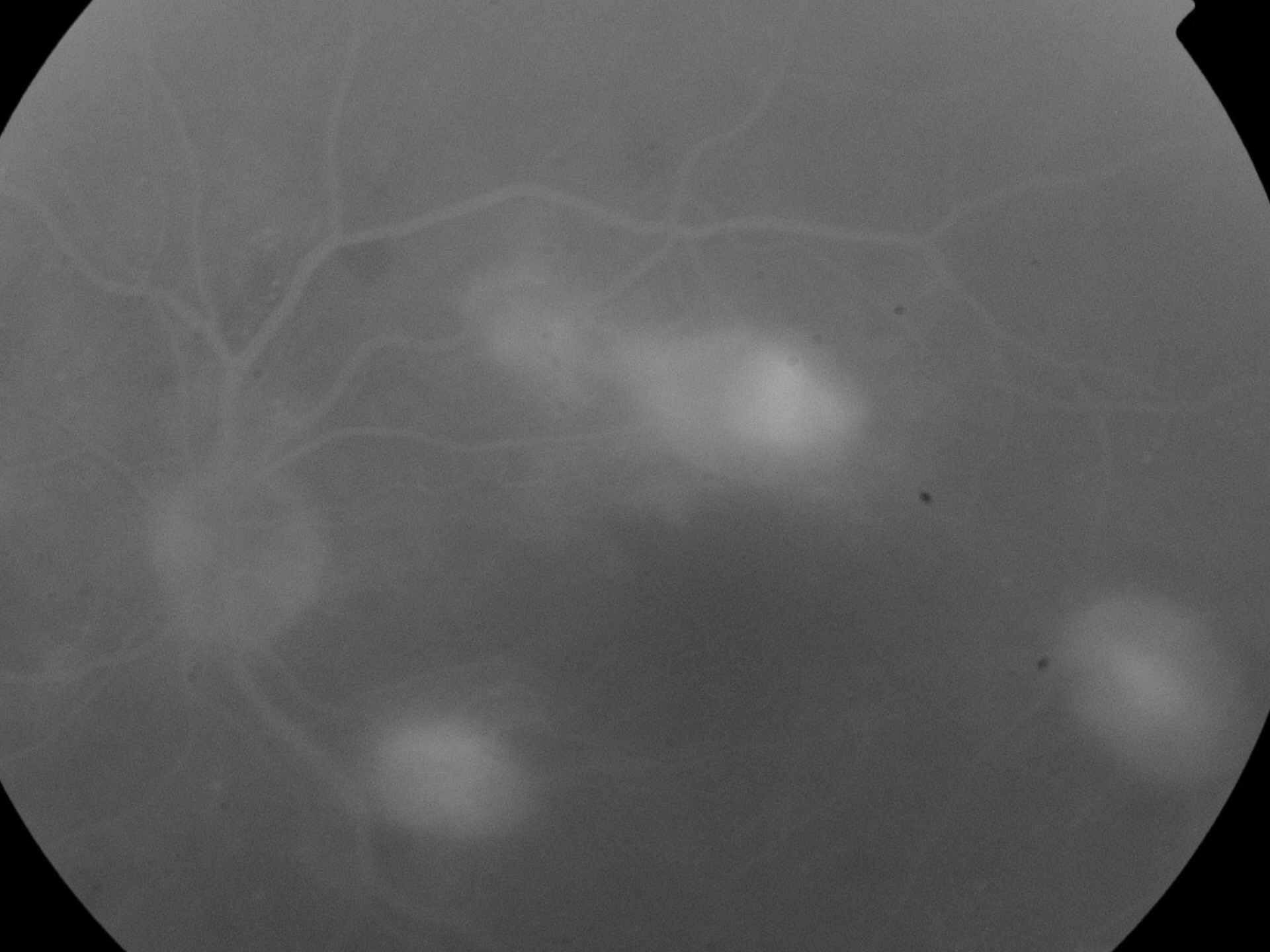
- Provisional Diagnosis: Endogenous endophthalmitis
- Advised admission for investigations, IV antibiotics, Vitreous Tap + IOAB
- Refused treatment

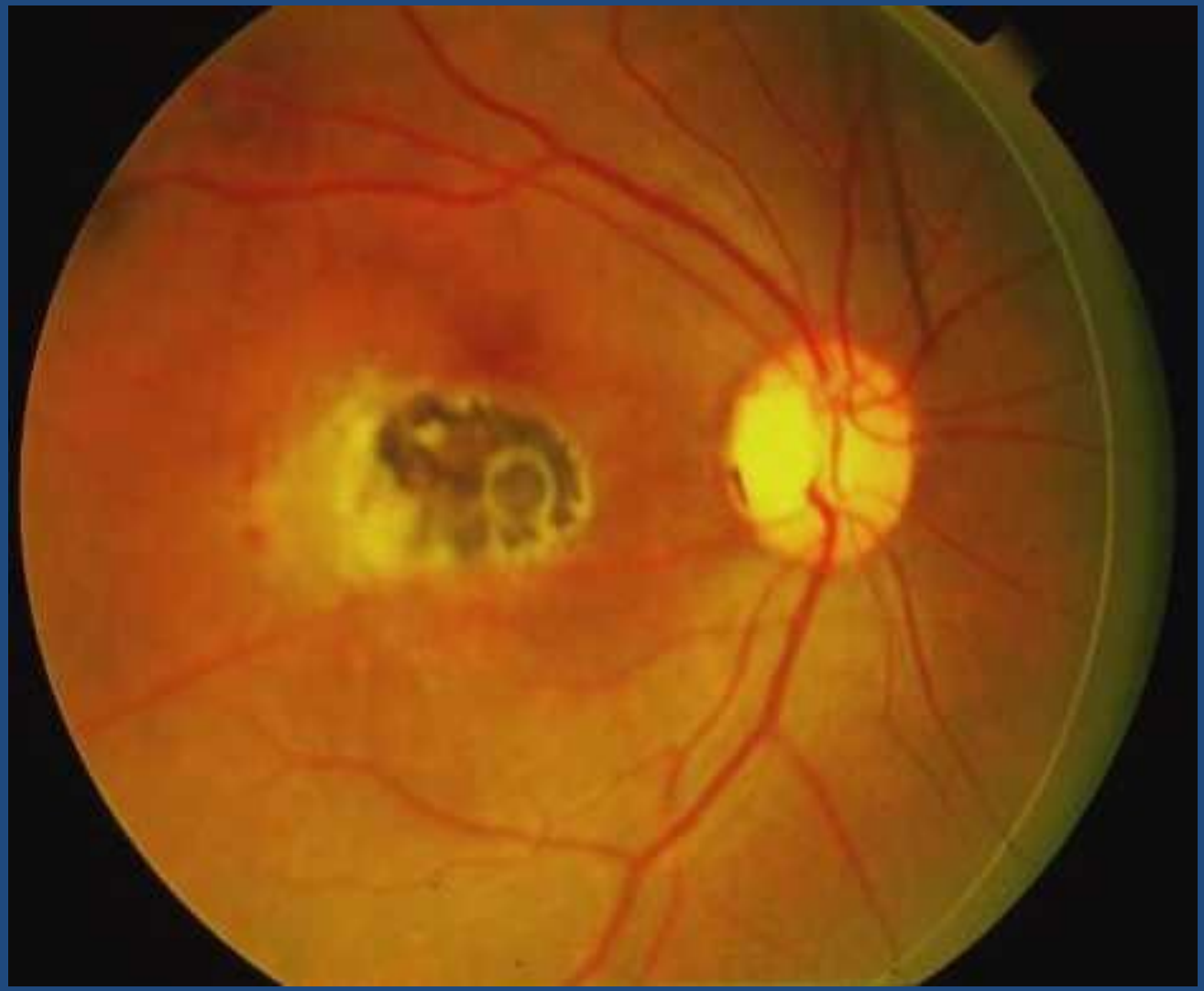
Case

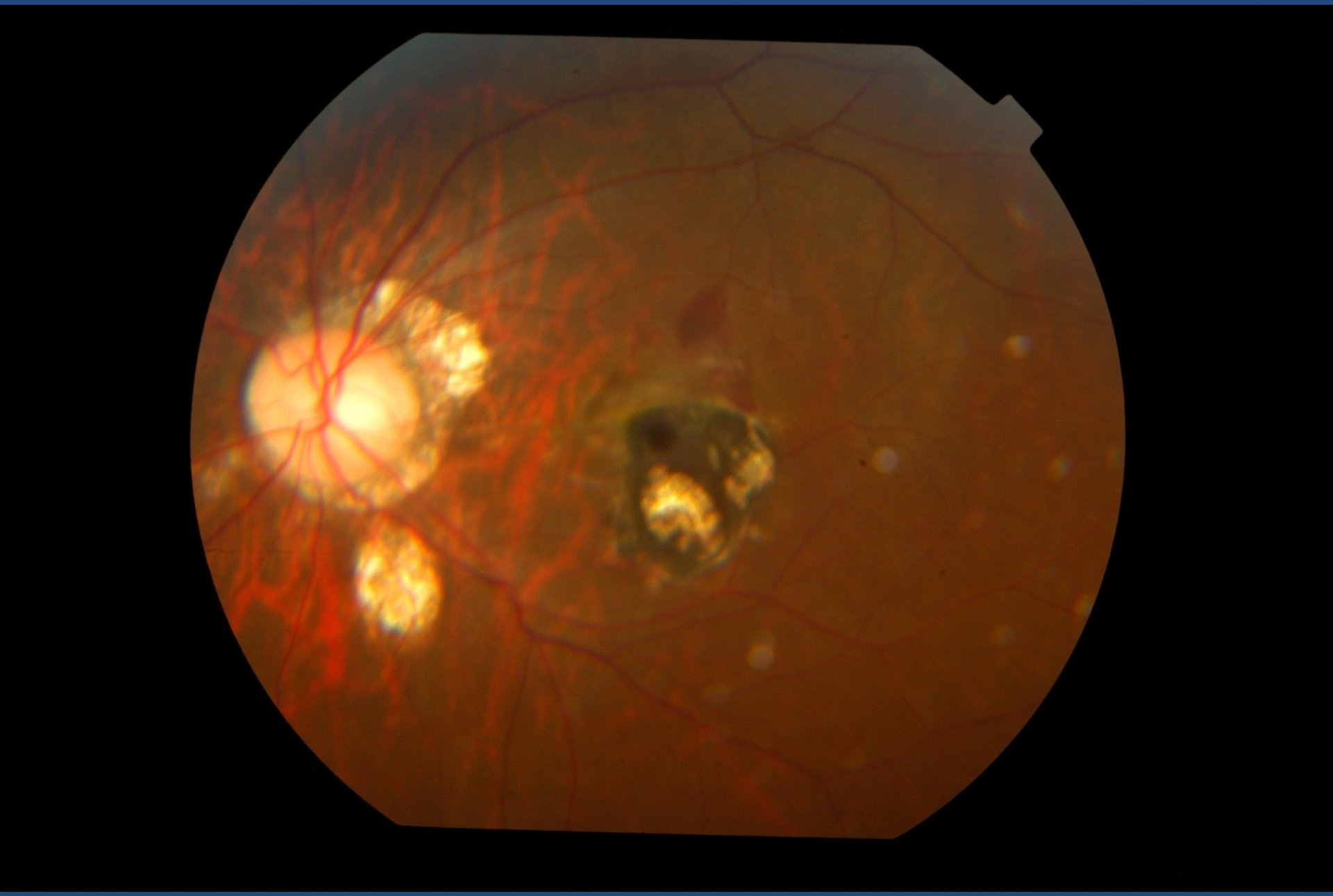
- 77 yo gentleman
- Diabetic
- Recurrent Urinary Tract Infection
- Bilateral vision drop one week
- Cataract, rigid pupils

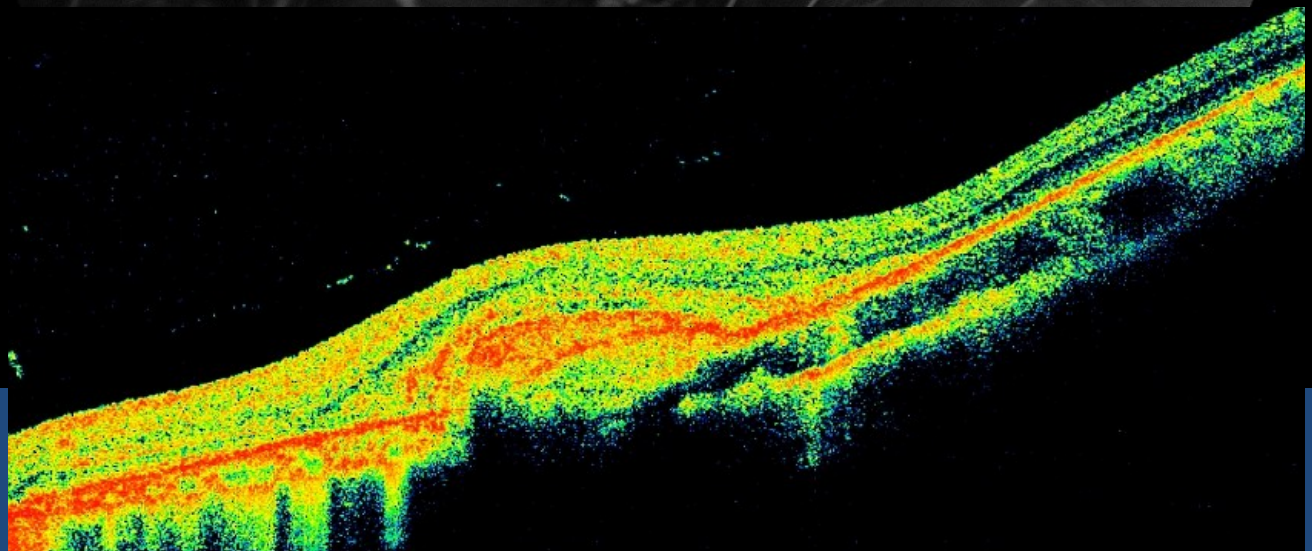


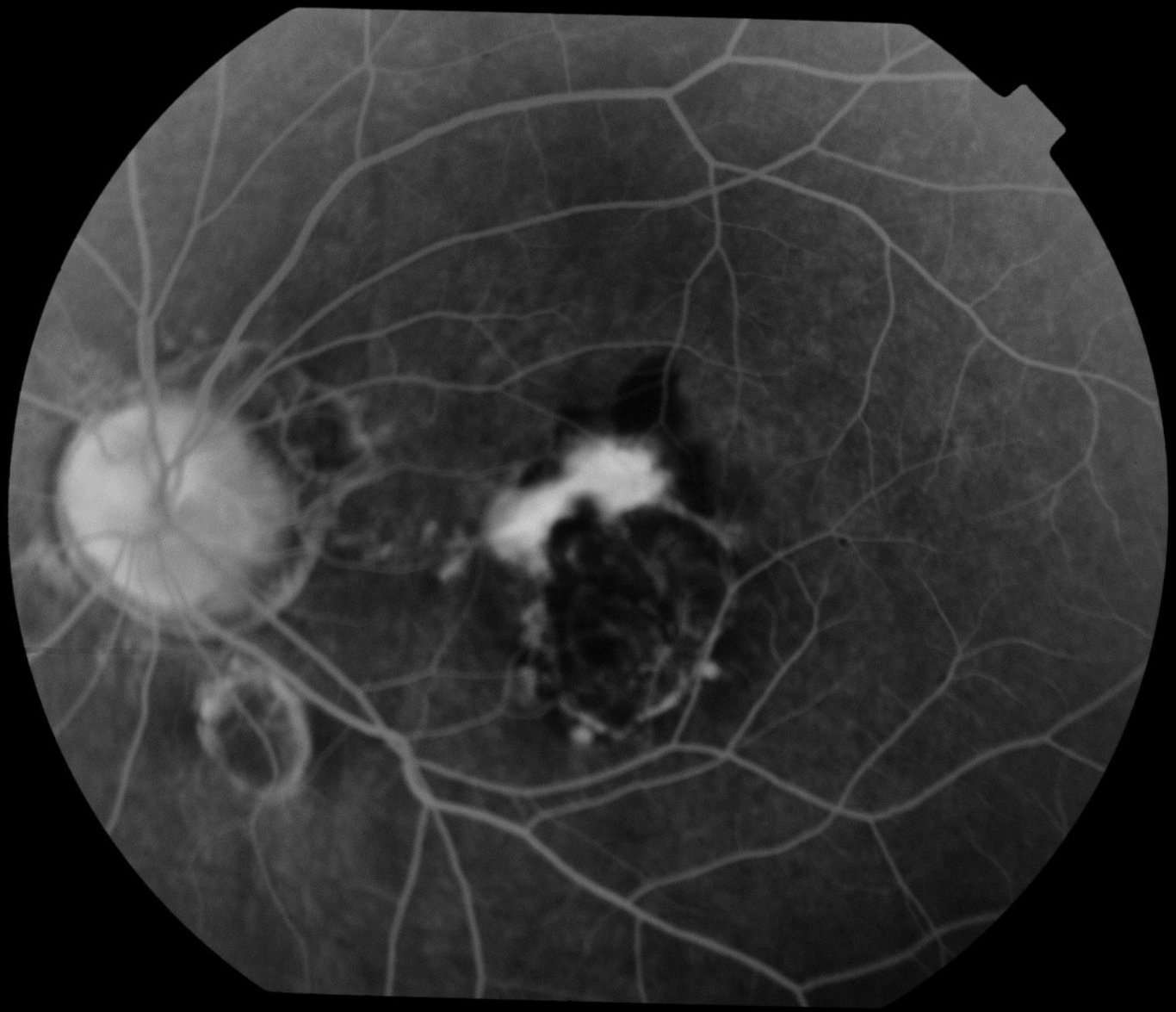




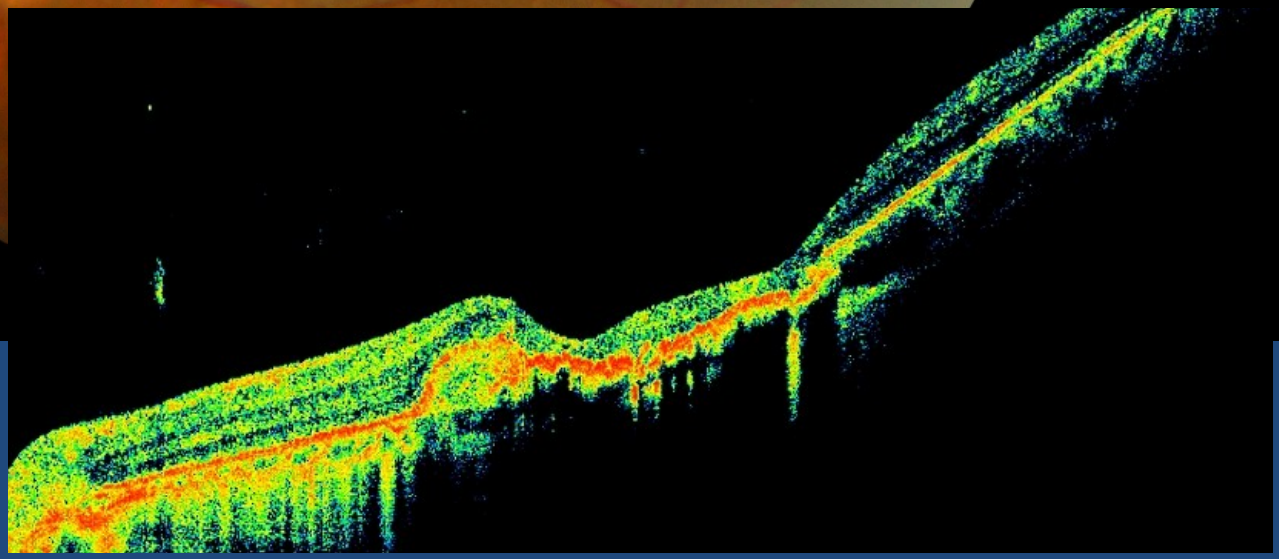






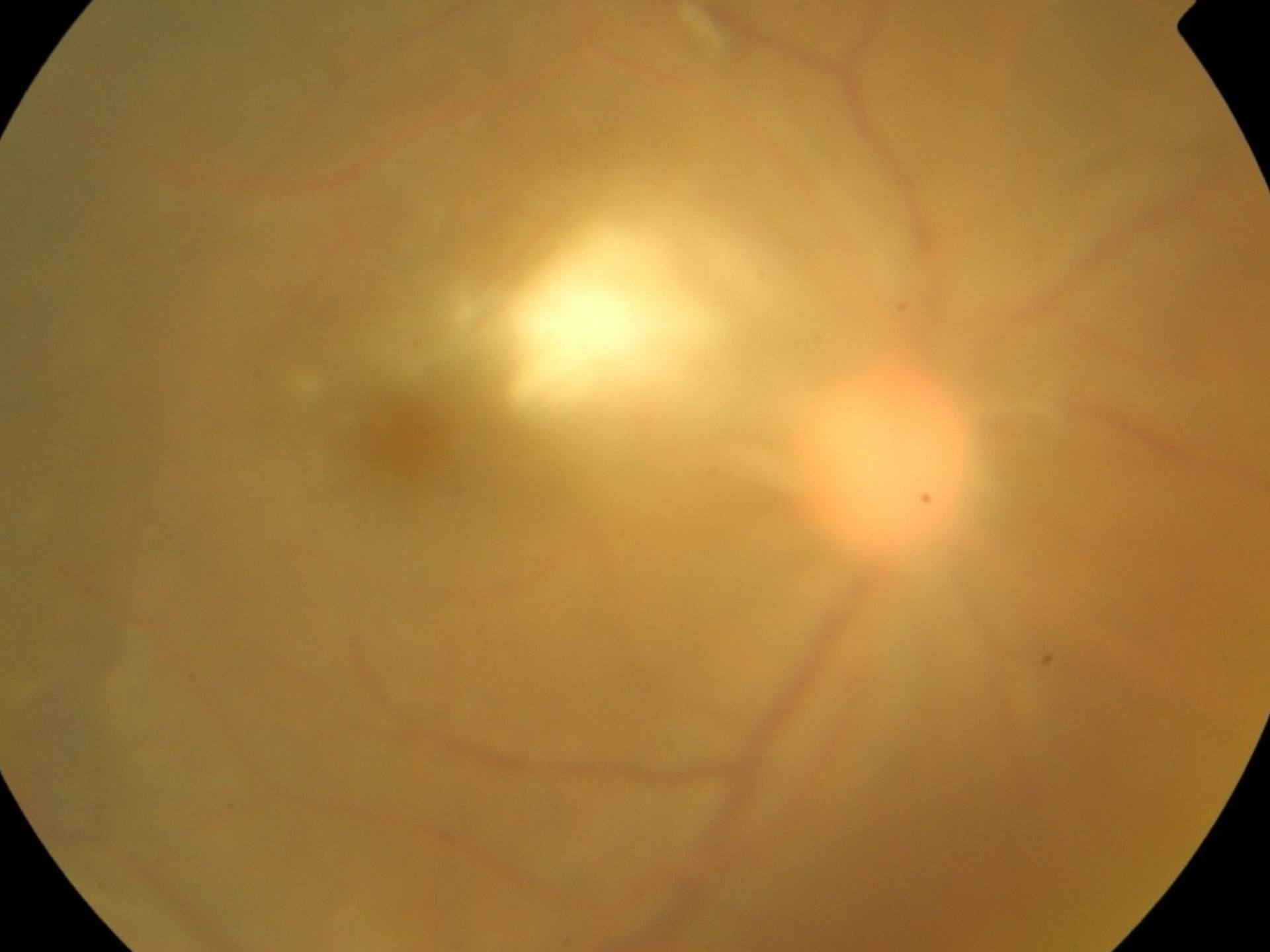


Post-Avastin



Case
December 20, 2009

- 26 year old lady
- RE poor vision for 1 week



Ocular Examination

- Visual acuity RE 20/100
- Patch of retinochoroiditis near fovea
- AC no cells
- Vitreous cells 1+
- LE normal

History

- No history of recent illness, injections, dental procedure, surgery or delivery

Investigations unremarkable

- Blood Sugar
- Hemogram
- Serum HIV
- Blood culture
- Urine culture
- Chest X-ray
- Internist evaluation


5 days later..

Management

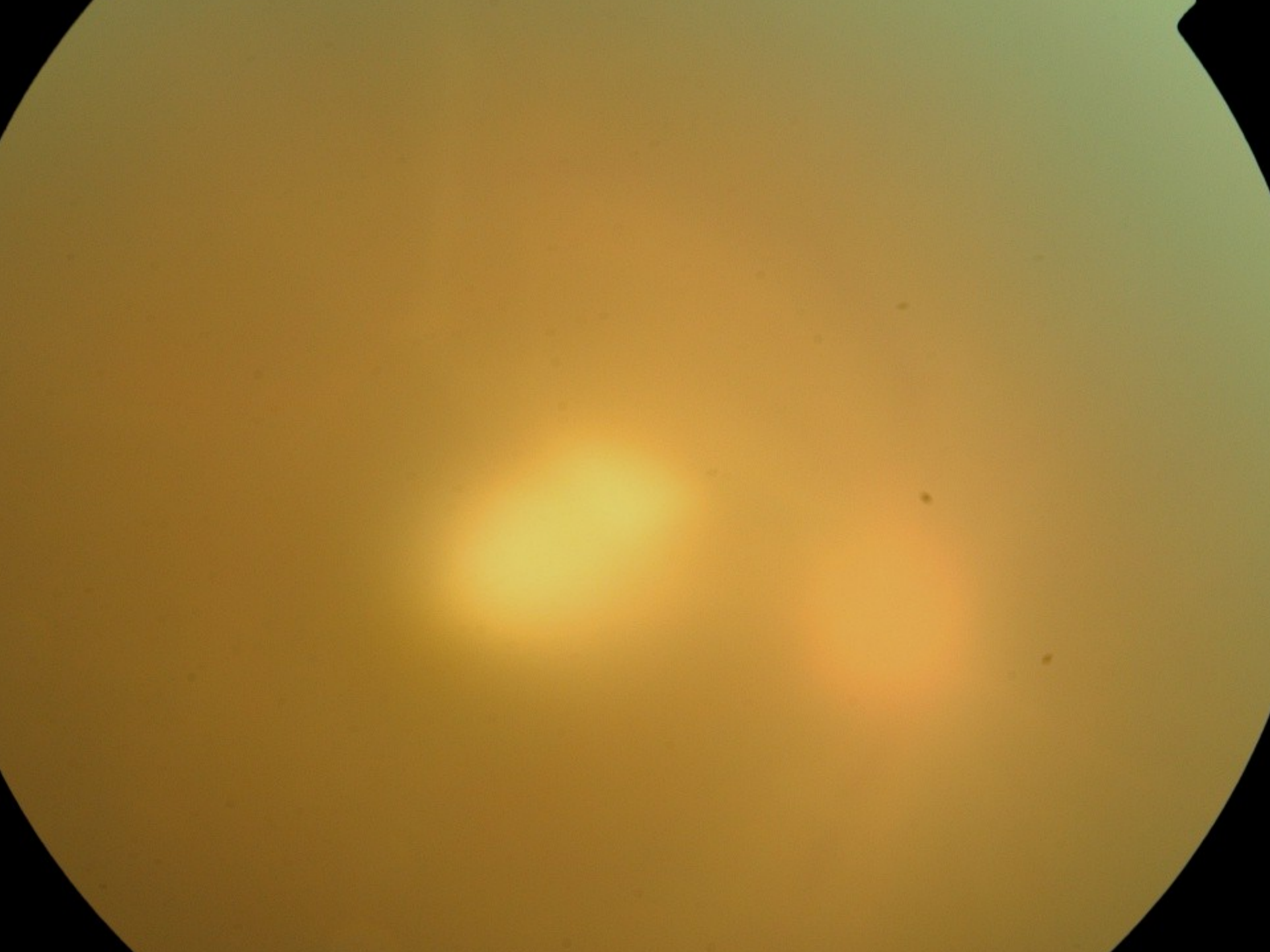
- Vitreous Biopsy + Intravitreal antimicrobials
- Smears: Candida species
- Culture: No growth

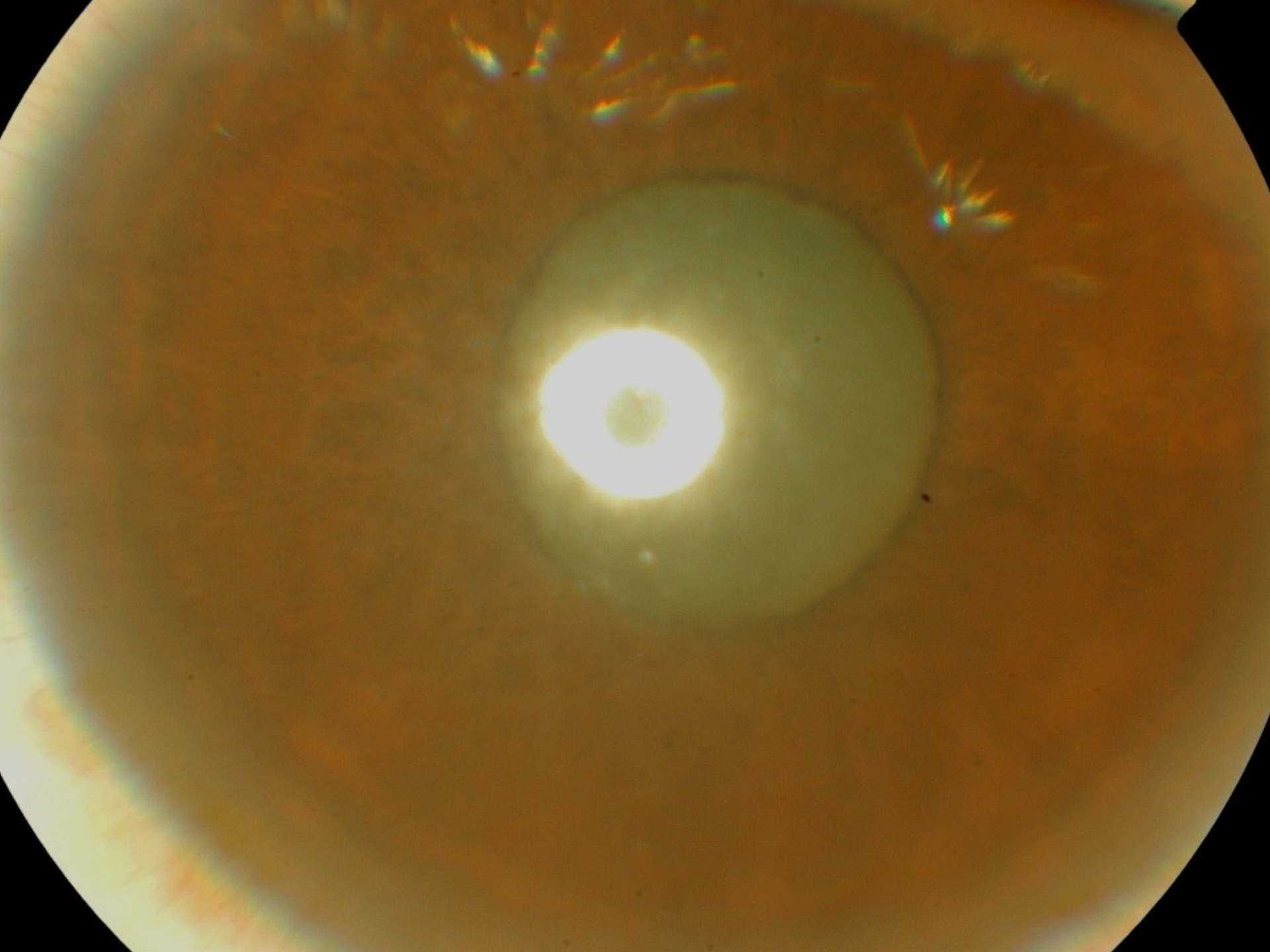
Management

- RE vitrectomy + intravitreal amphotericin B
- Intravenous voriconazole 200mg bid x 6 weeks

Management

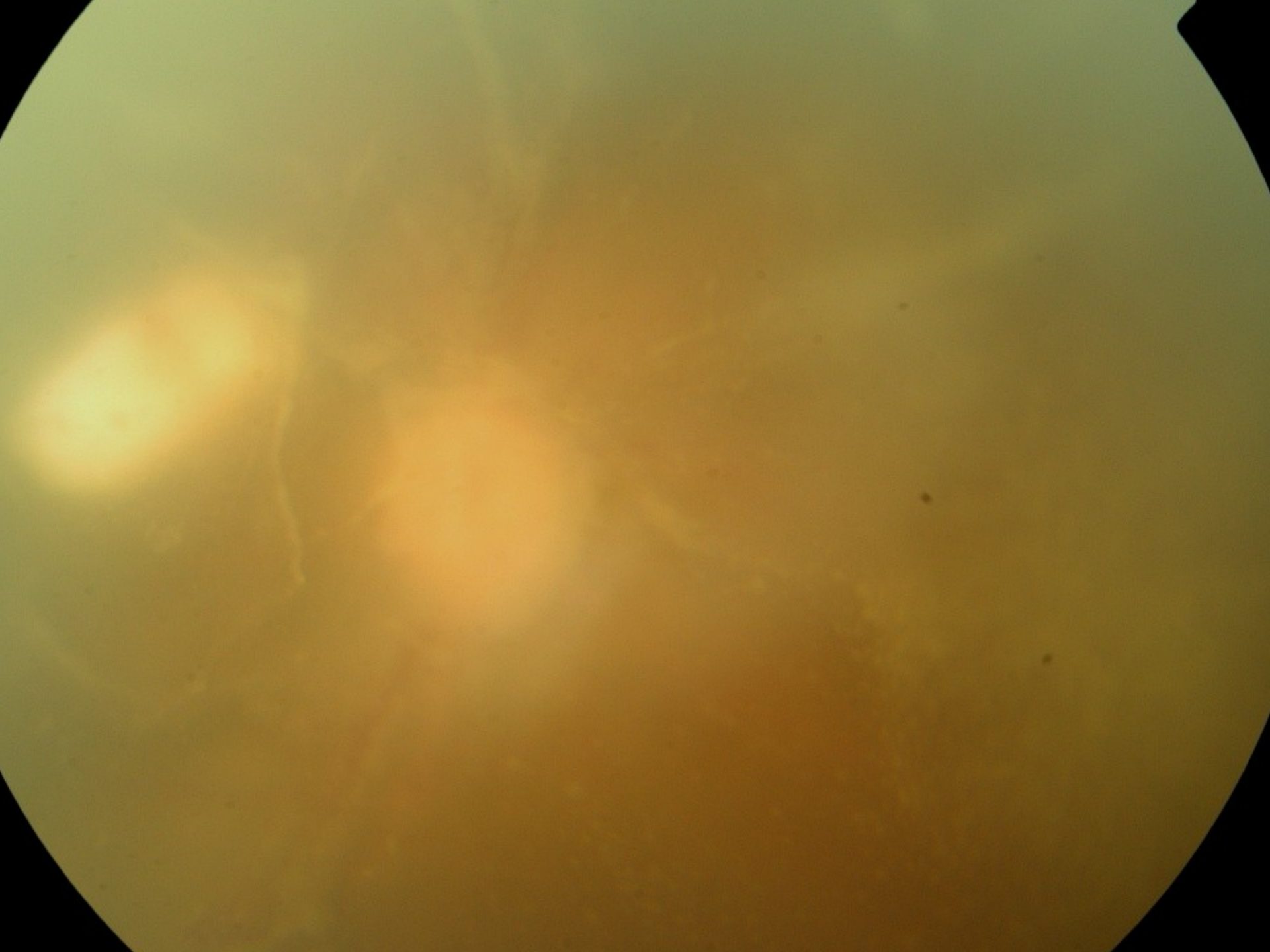
- Increasing vitreous haze, pupil rigidity and inflammation

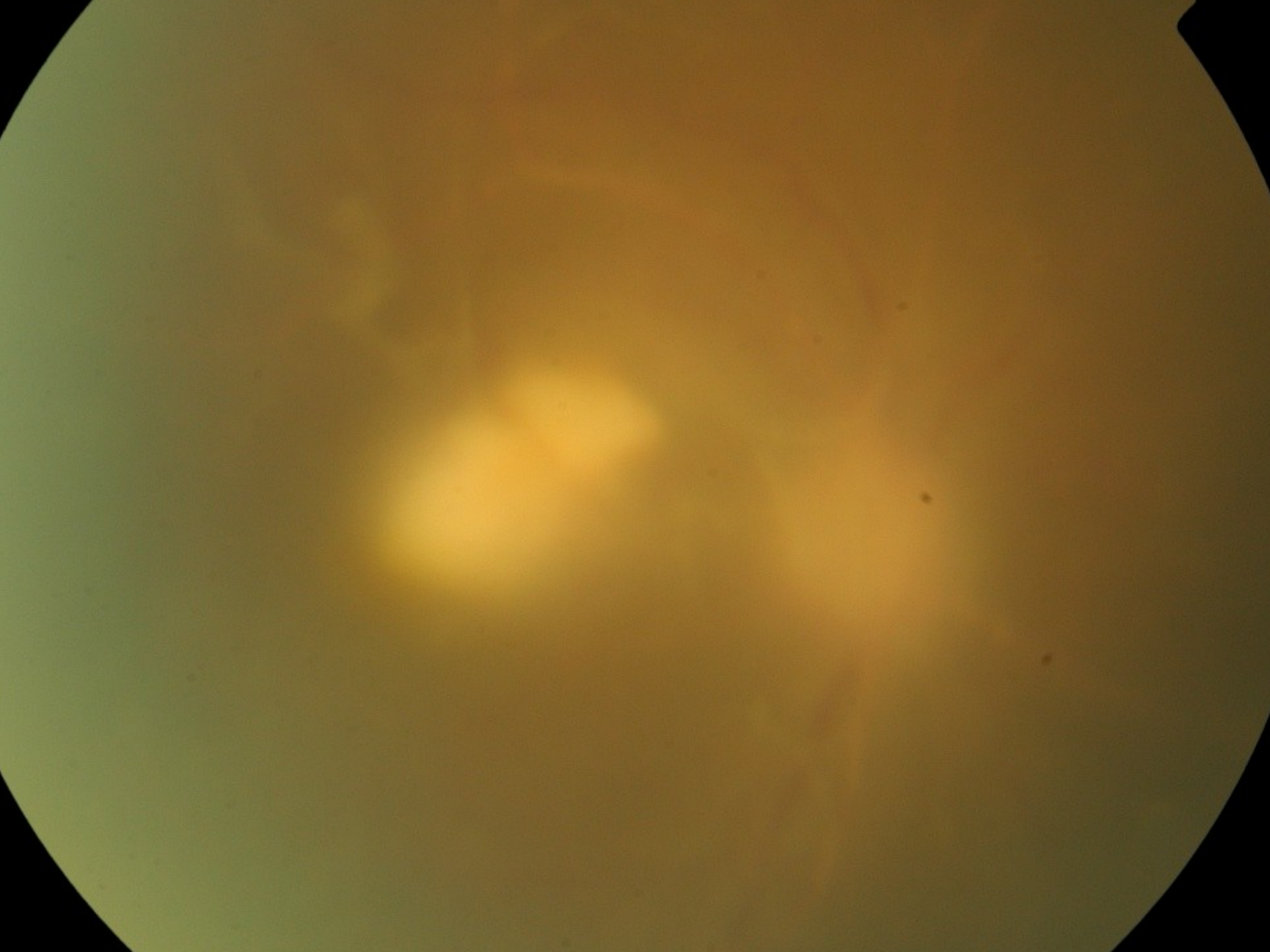




Management

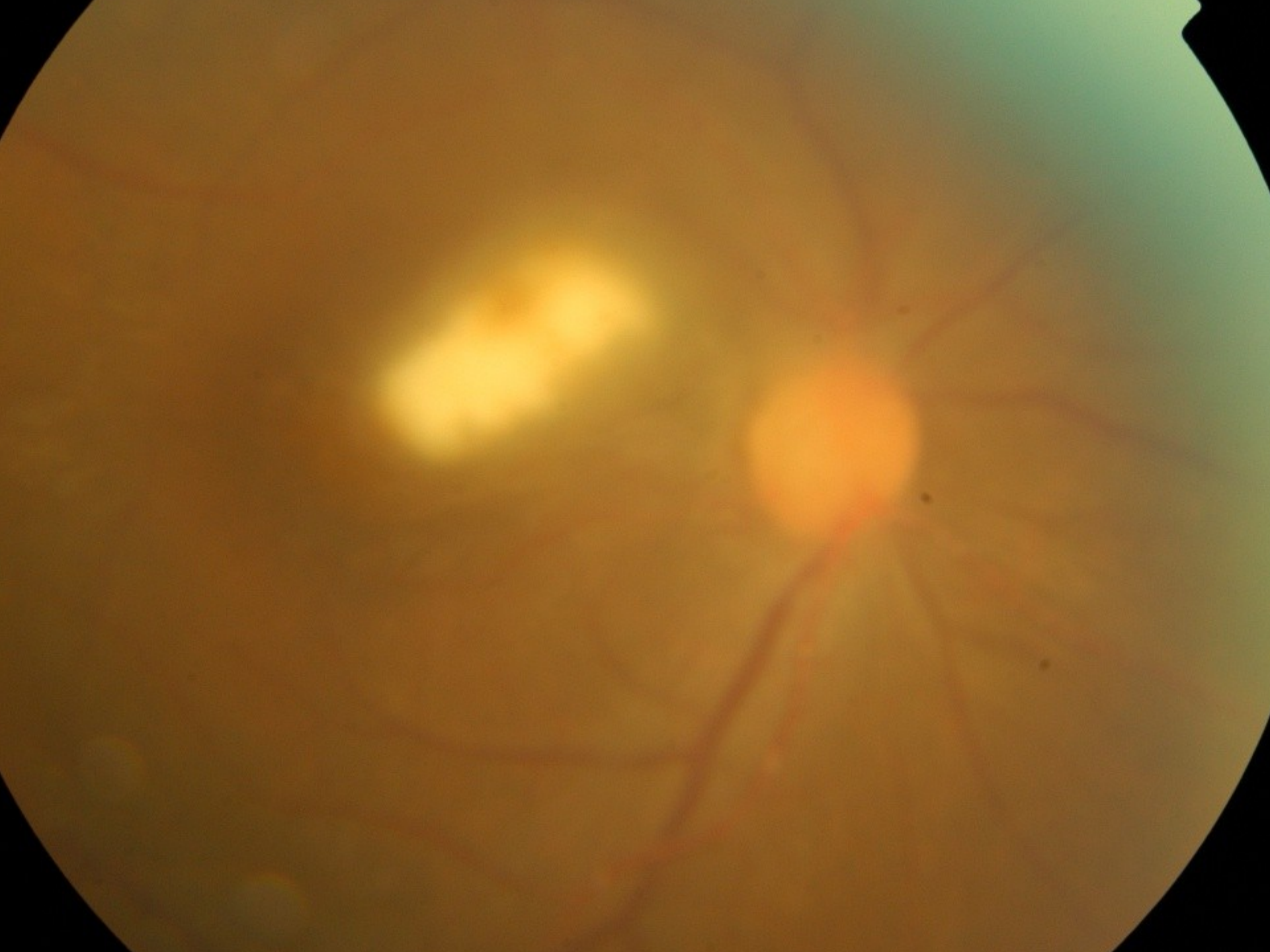
- Intravitreal amphotericin B every 2 weeks

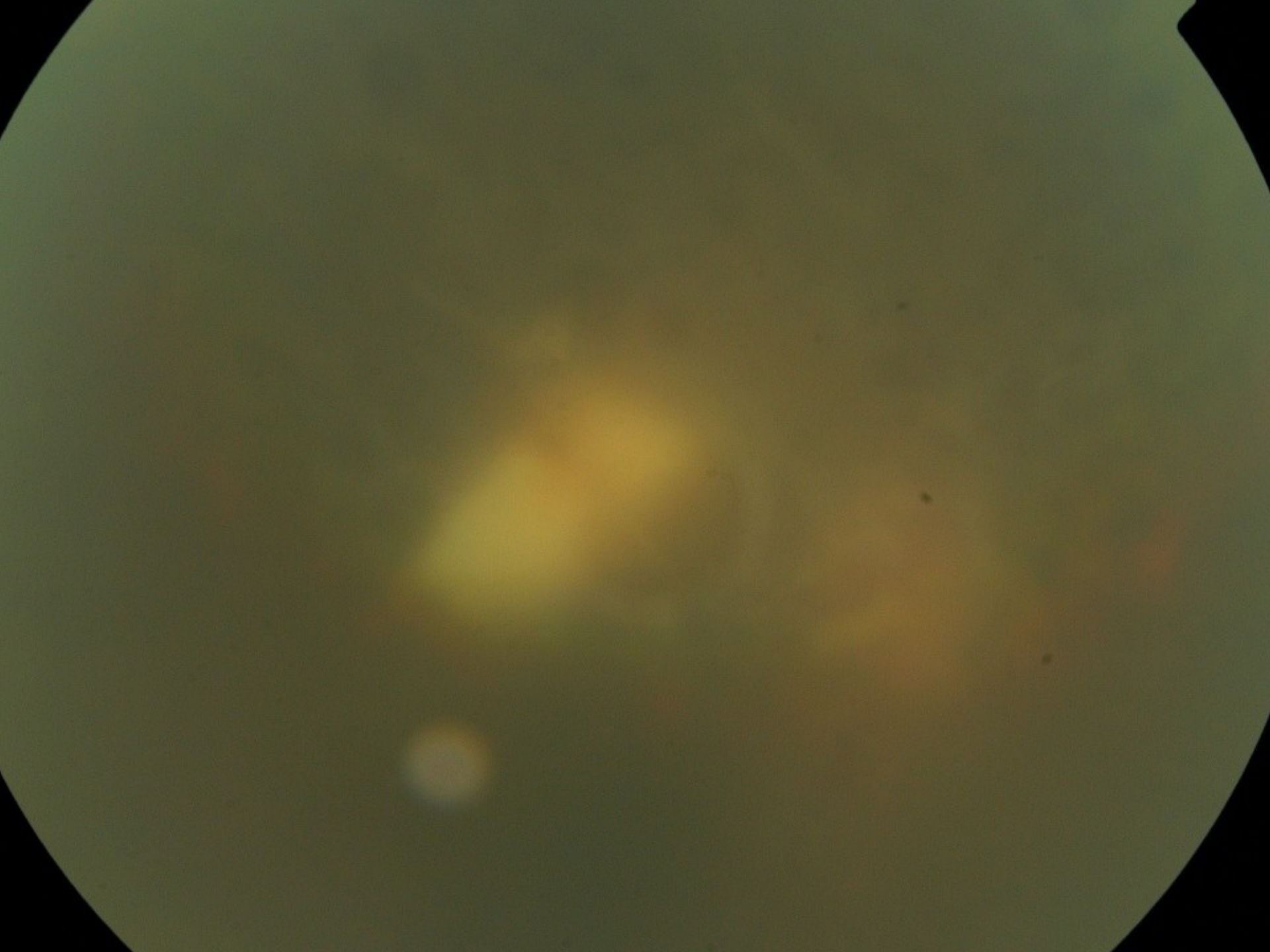


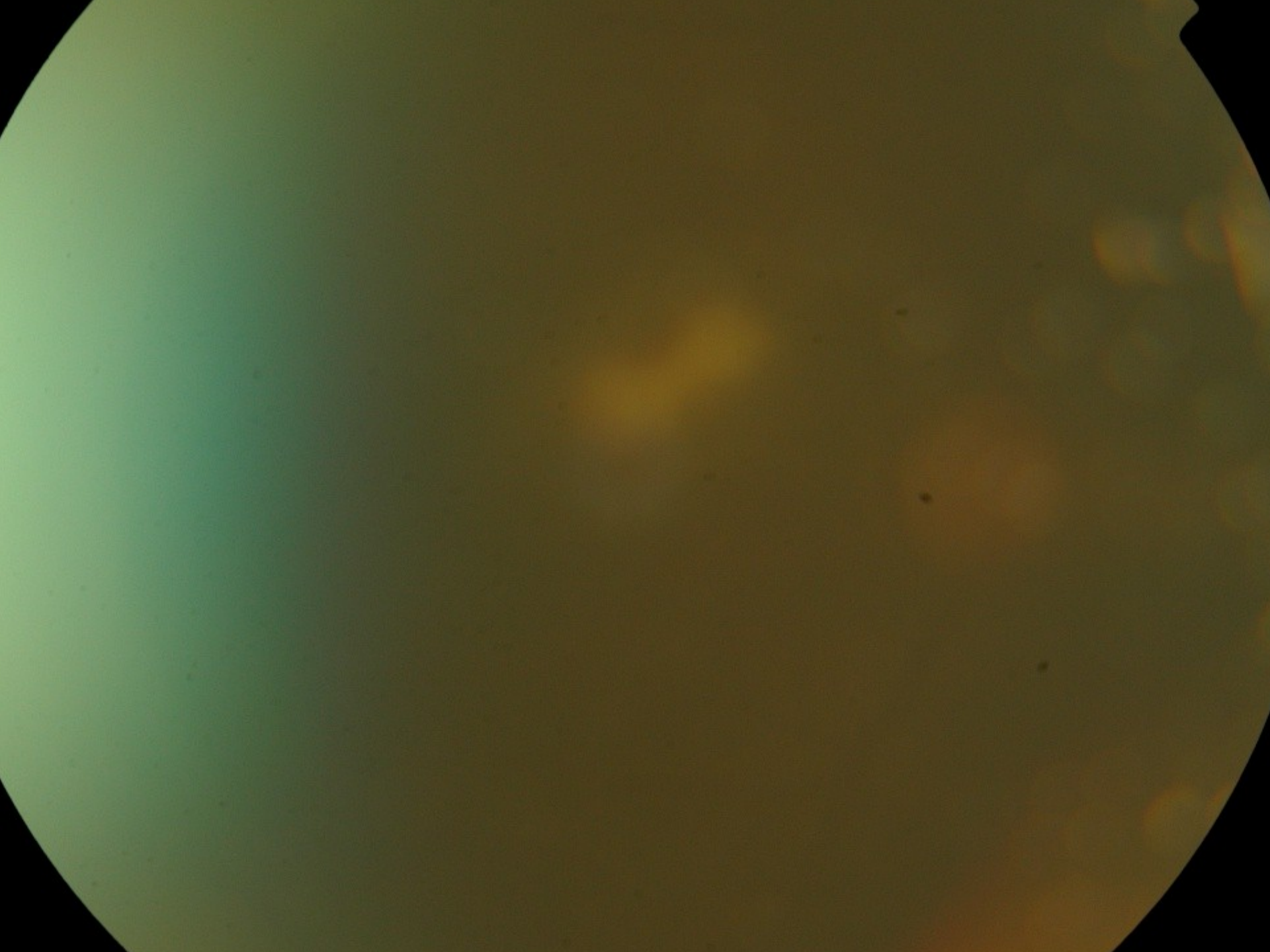


Management

- 2nd vitrectomy + intravitreal antimicrobials 4 weeks after the first vitrectomy
- Smears & culture negative





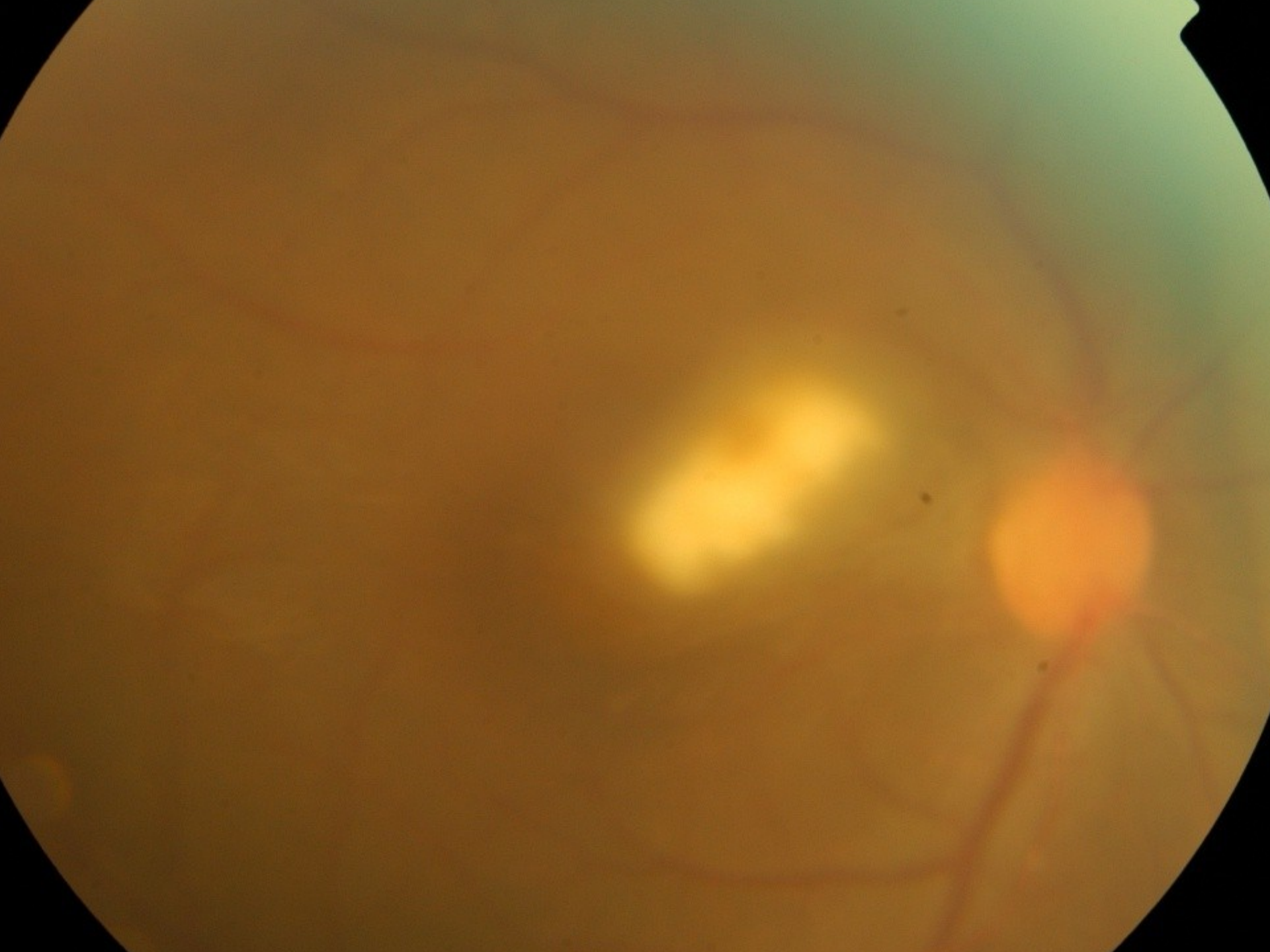


Management

- Intravitreal injections of voriconazole 10 ug + amphotericin B 5 ug administered periodically
- Oral Voriconazole 200 mg bd (96% ocular bioavailability) after 6 weeks of intravenous medication

Intravitreal anti-fungals

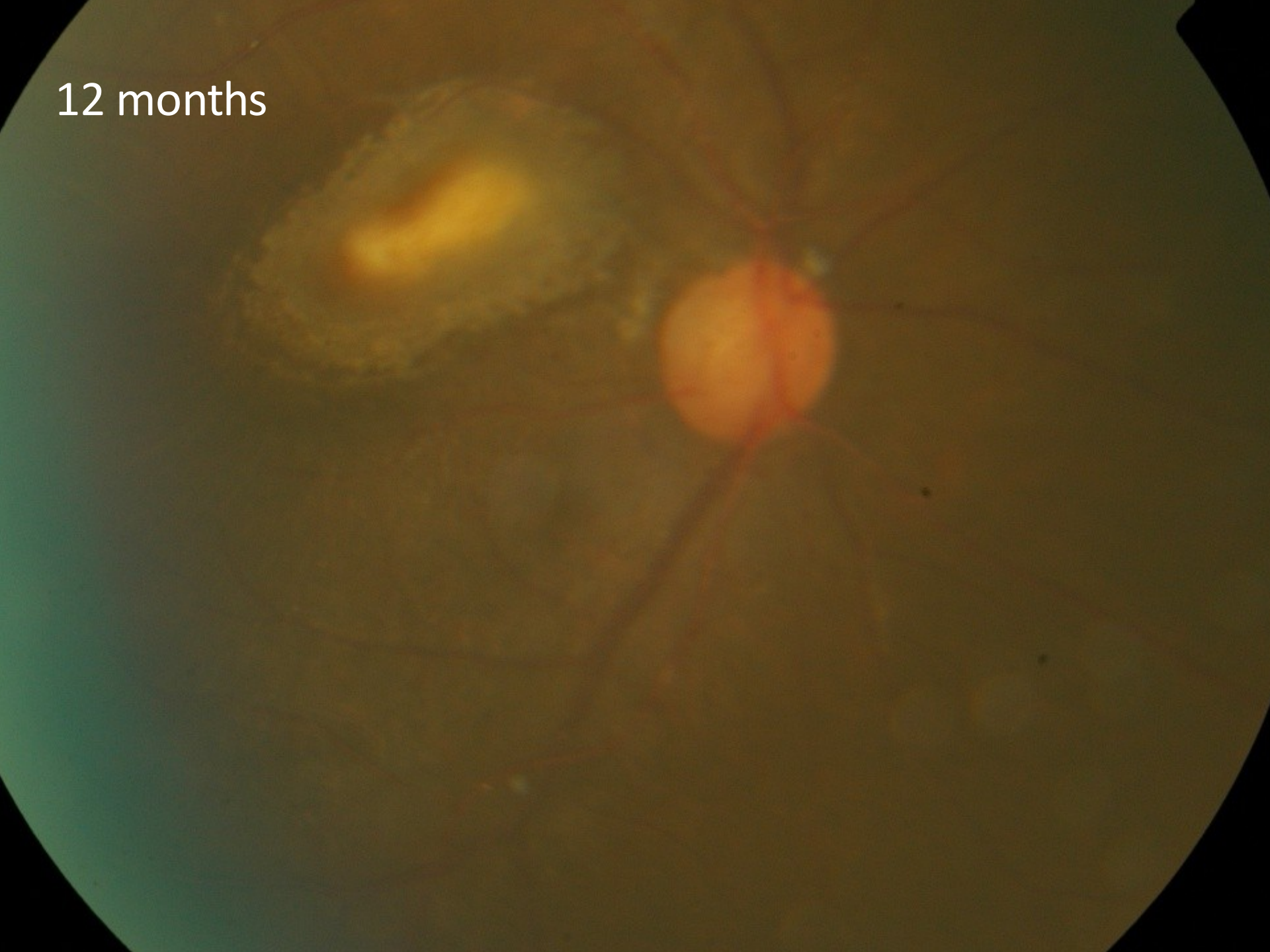
- Amphotericin B 5 ug
- Voriconazole 10 ug (50-100 ug)



July 21, 2010

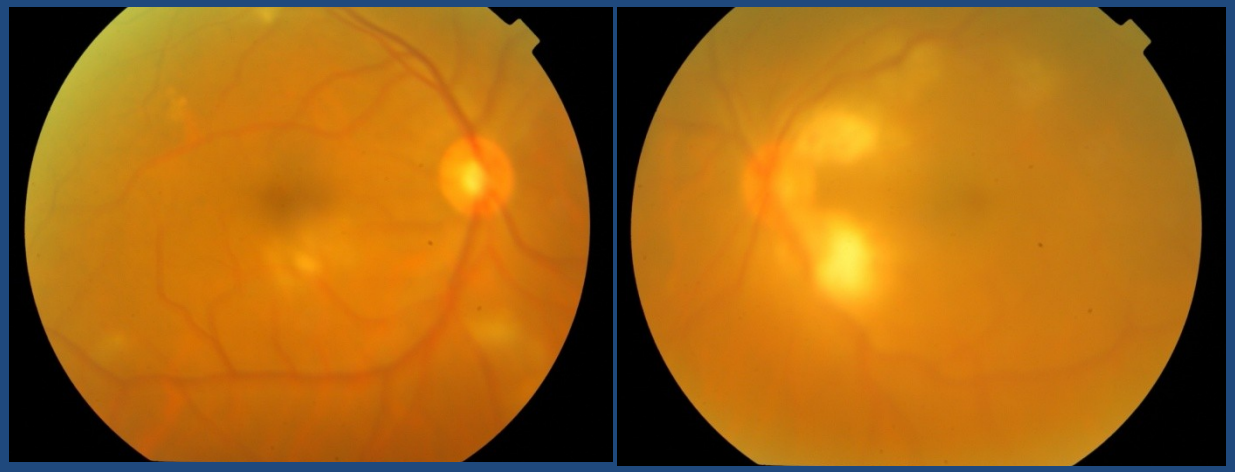
- Lesion minimally active with negligible vitreous inflammation
- Intravitreal antifungals discontinued

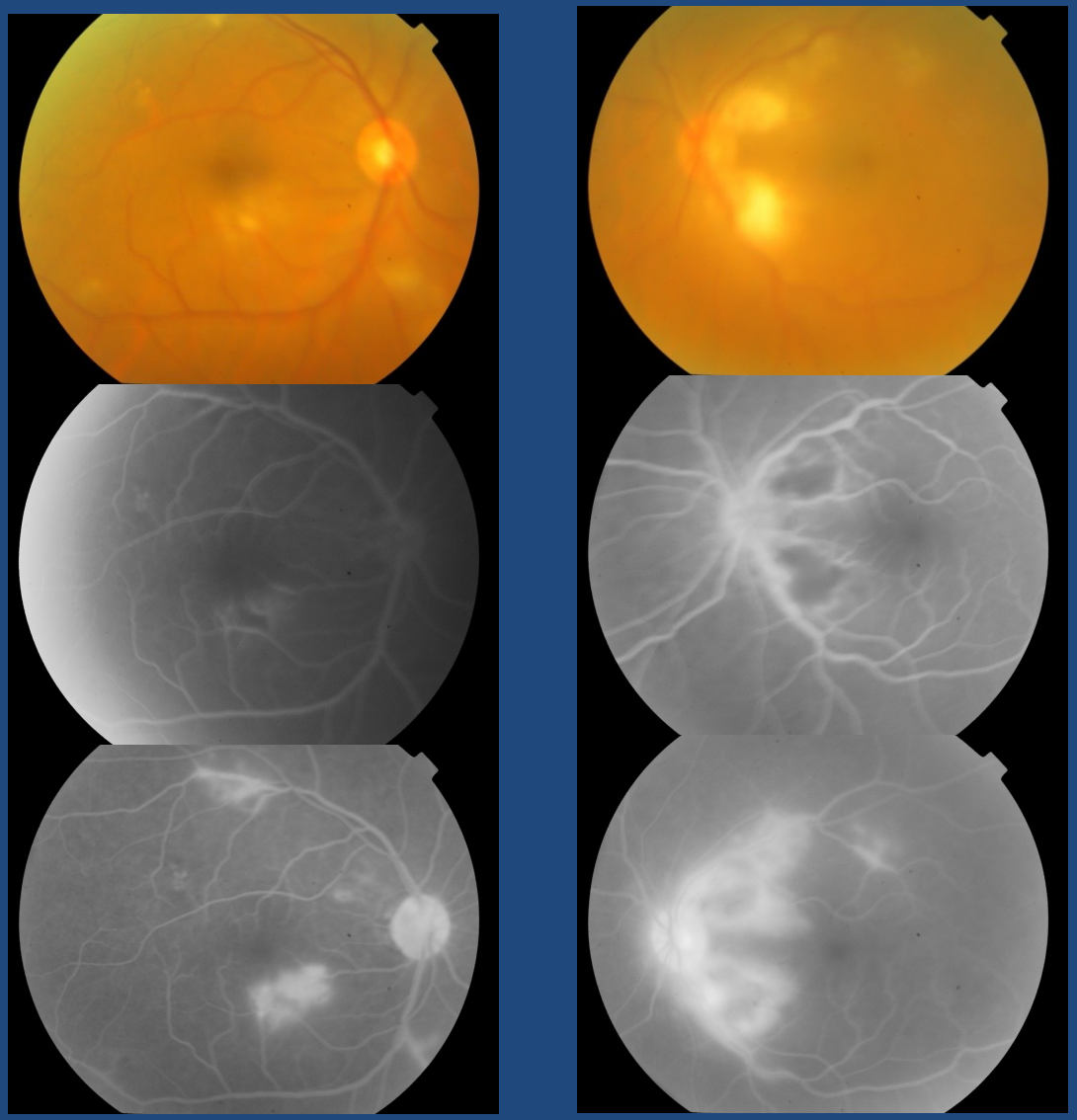

November 2010
Oral voriconazole 10 months
VA 20/80


12 months

Case

- A 50 y.o. diabetic presented with LE sudden drop in vision



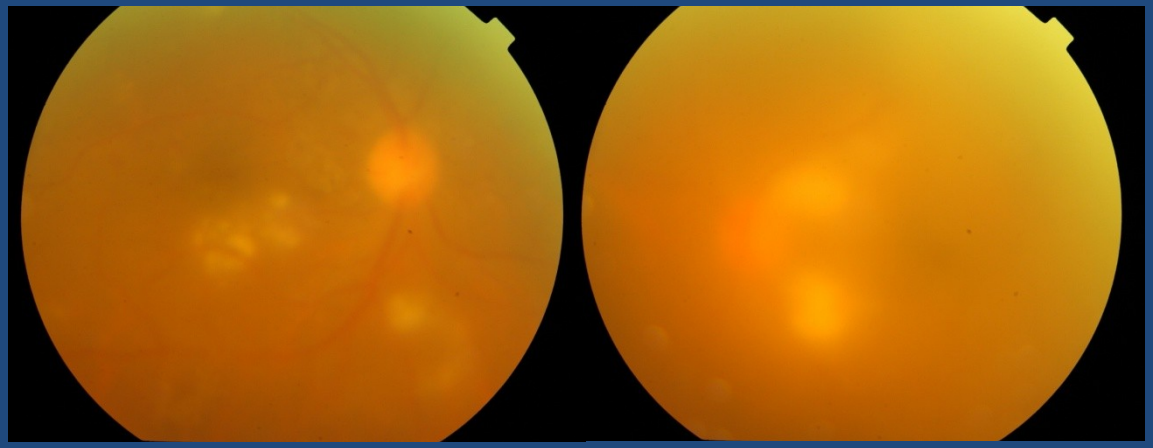


Case

- Internist consult & investigations unremarkable
- Dental root infection: culture negative, placed on antibiotics by dentist
- Vitreous tap: culture negative
- DNA/RNA microchip exam of vitreous: E coli

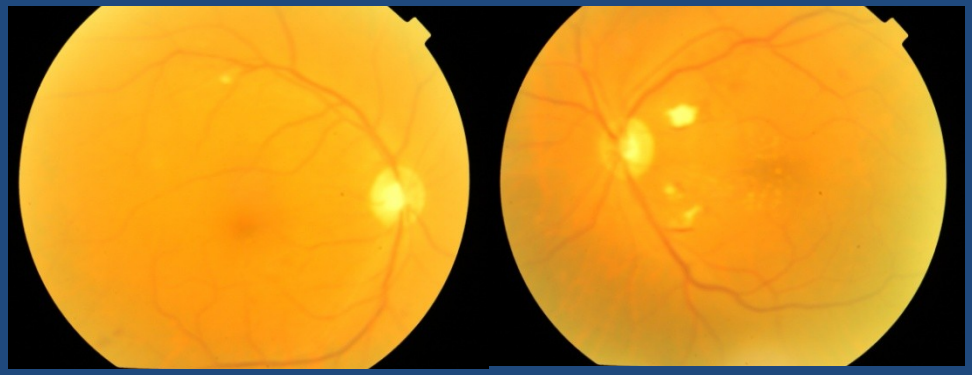
Case

- IV augmentin, ceftazidime and metrogyl for 2 weeks followed by oral ofloxacin
- Both eyes intravitreal antibiotics (vancomycin and amikacin) administered
- Poor response, increasing vitreous haze



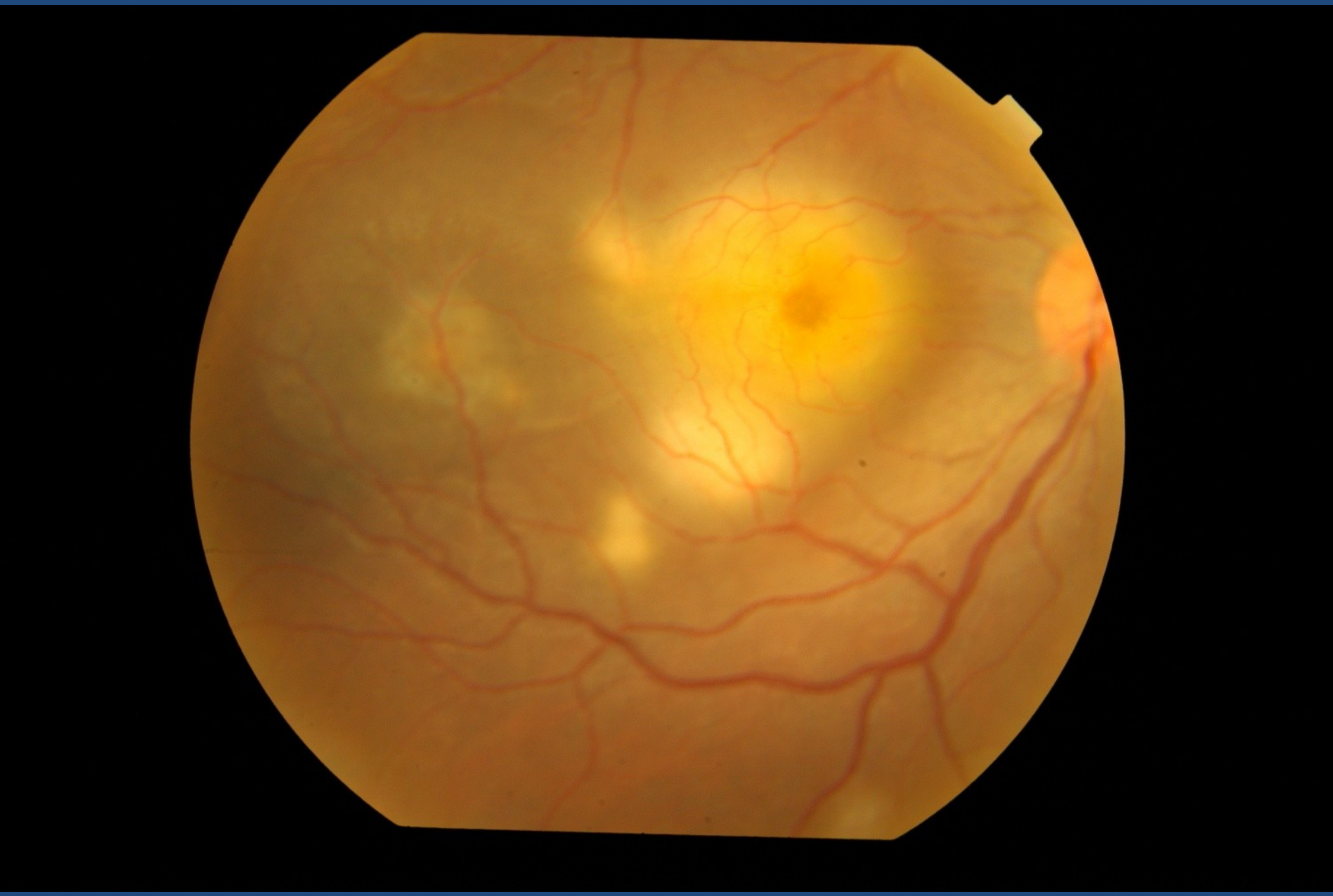
Case

- Vitrectomy with intravitreal antibiotics (cefazolin with ceftazidime) for the 2 eyes was done on day 5 and day 8 respectively
- Resolution over 3 weeks
- At 6 weeks VA 20/20 each eye



Case

- 22 yo gentleman
- Large elevated sub-retinal abscess
- No vitreous cells



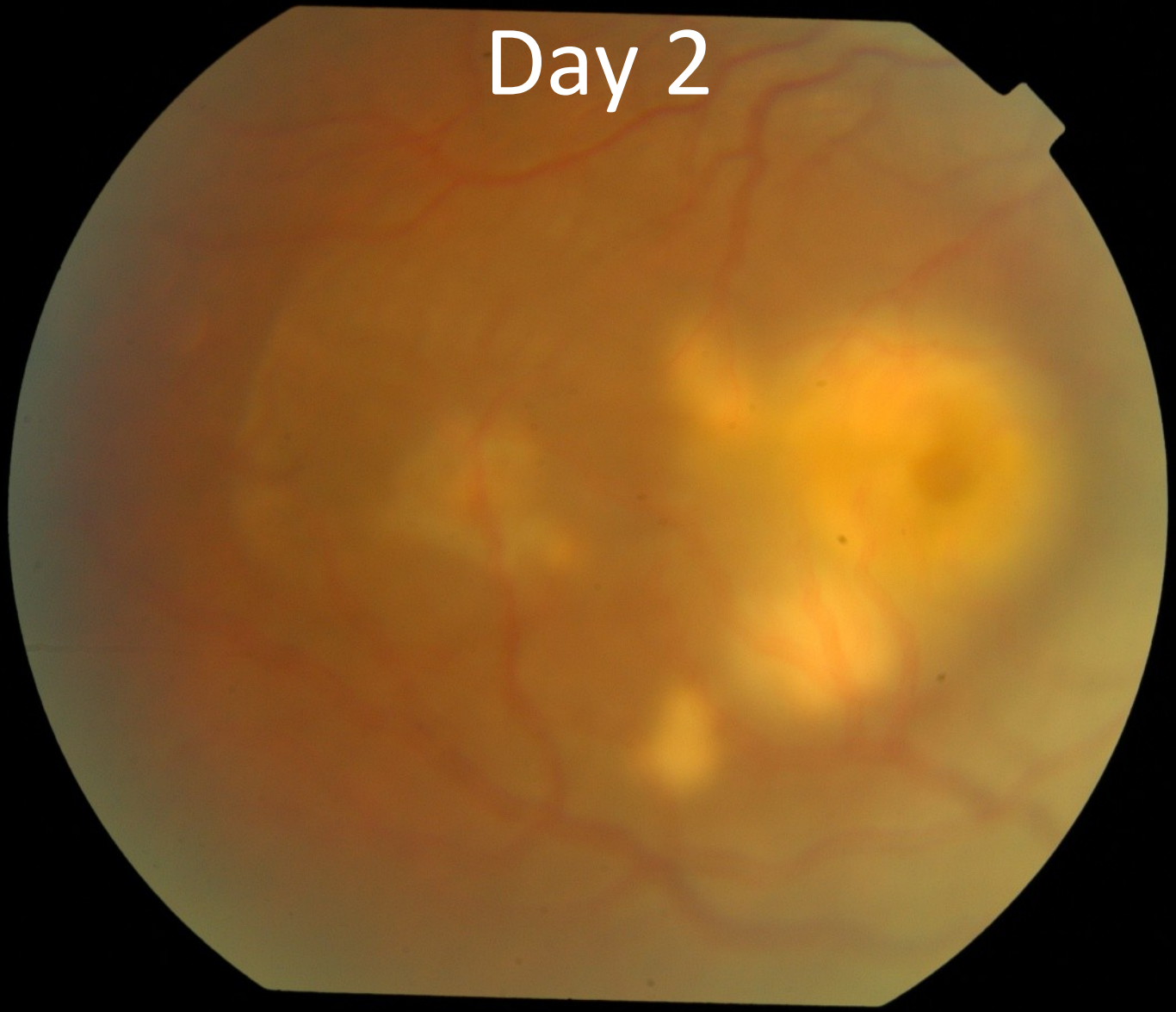
Case

- Healthy, no septic focus
- Blood culture negative
- Chest X ray normal
- Internist consult negative

Case

- Oral Levofloxacin 750 mg daily
- Vitreous tap + IOAB
- Culture negative

Day 2



Day 5

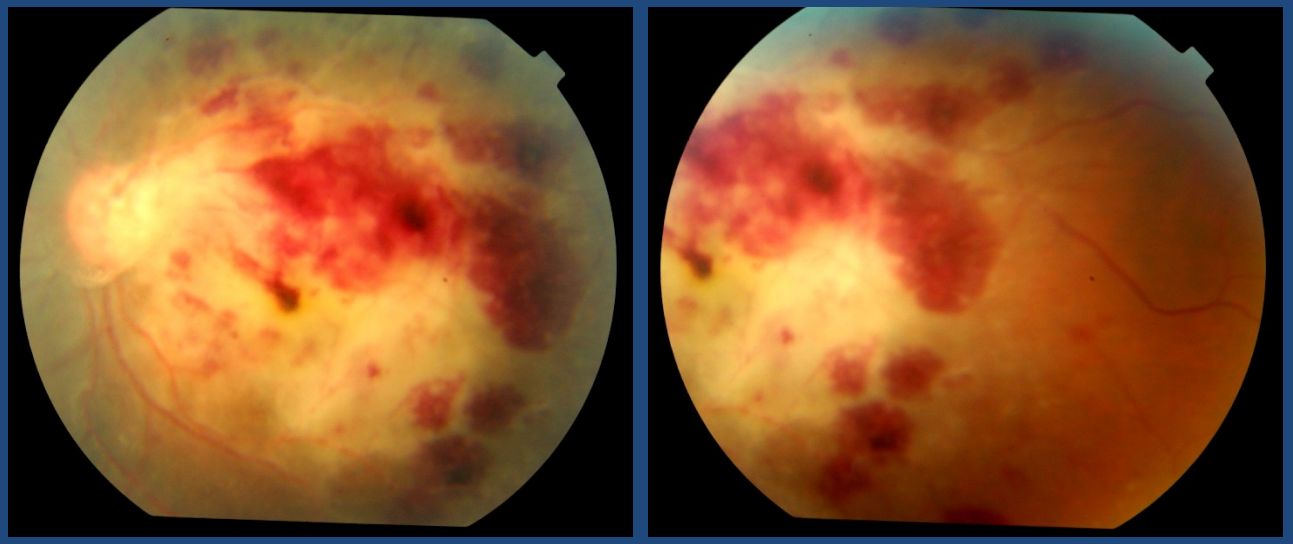

Day 10


Day 10

Case

- 12 year old boy with systemic lymphoma in remission
- LE sudden loss of vision

LE Fundus Picture



Diagnosis

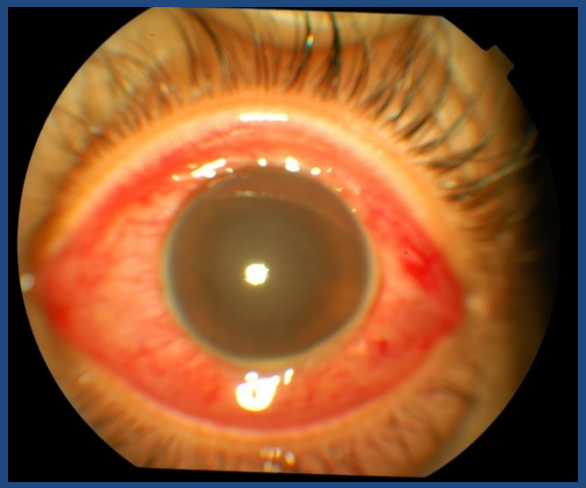
- Endogenous endophthalmitis

Management

- Vitreous Tap + IOAB
- Klebsiella
- Sensitive only to gatifloxacin
- Vitrectomy + IOAB
- Systemic gatifloxain

Day 3

Pain & congestion
AC inflammation
Rx: topical steroids



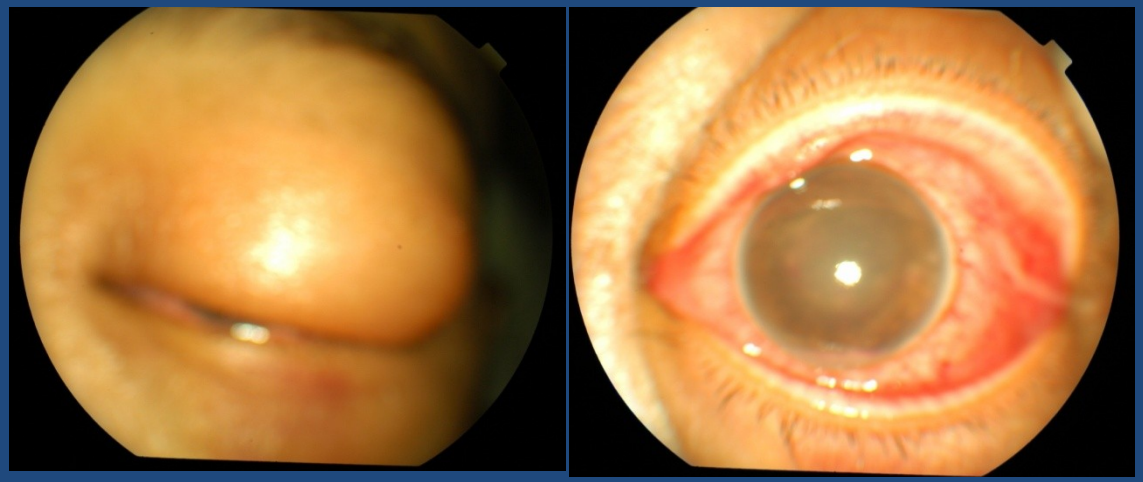
Day 6

Vitreous haze

Scleral congestion

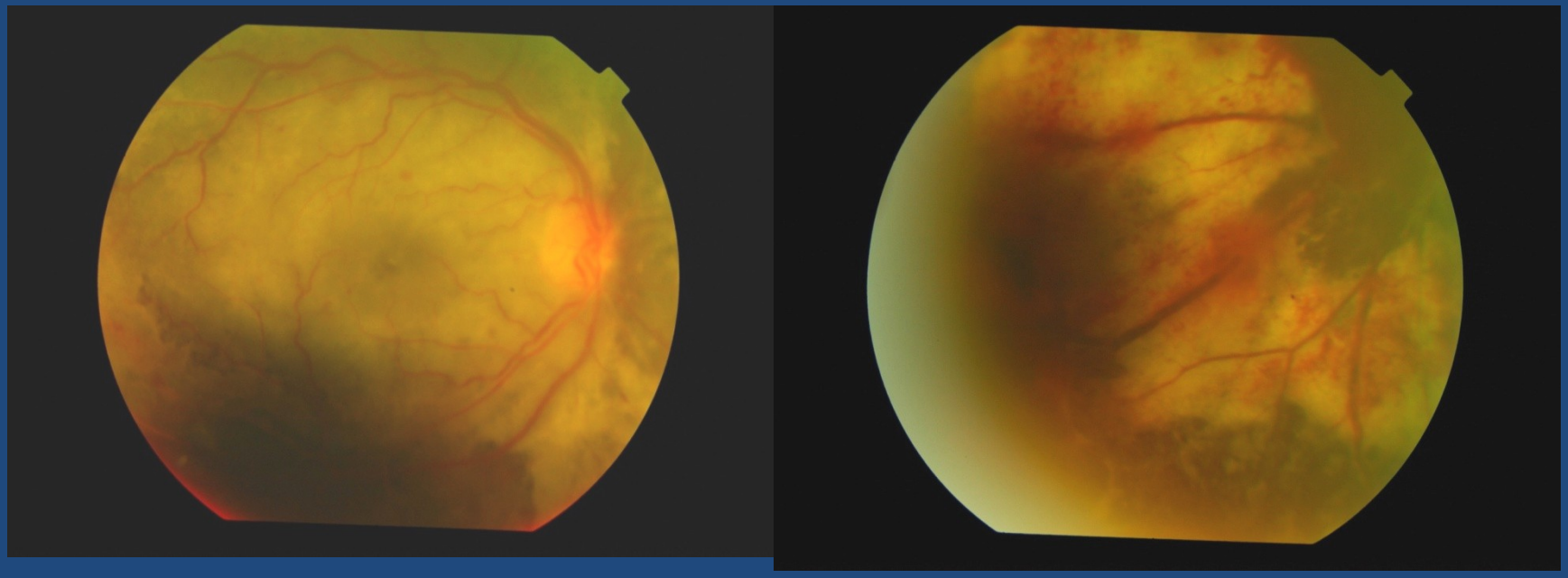
Lid edema

Neovascularisation iris



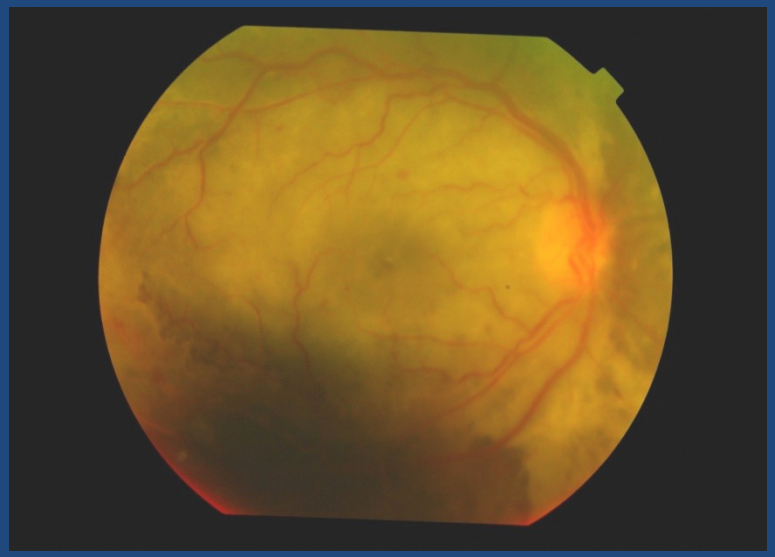
Progressive Outer Retinal Necrosis

- 21 year old HIV positive lady
- Bilateral visual loss over 4 weeks
- PL negative both eyes

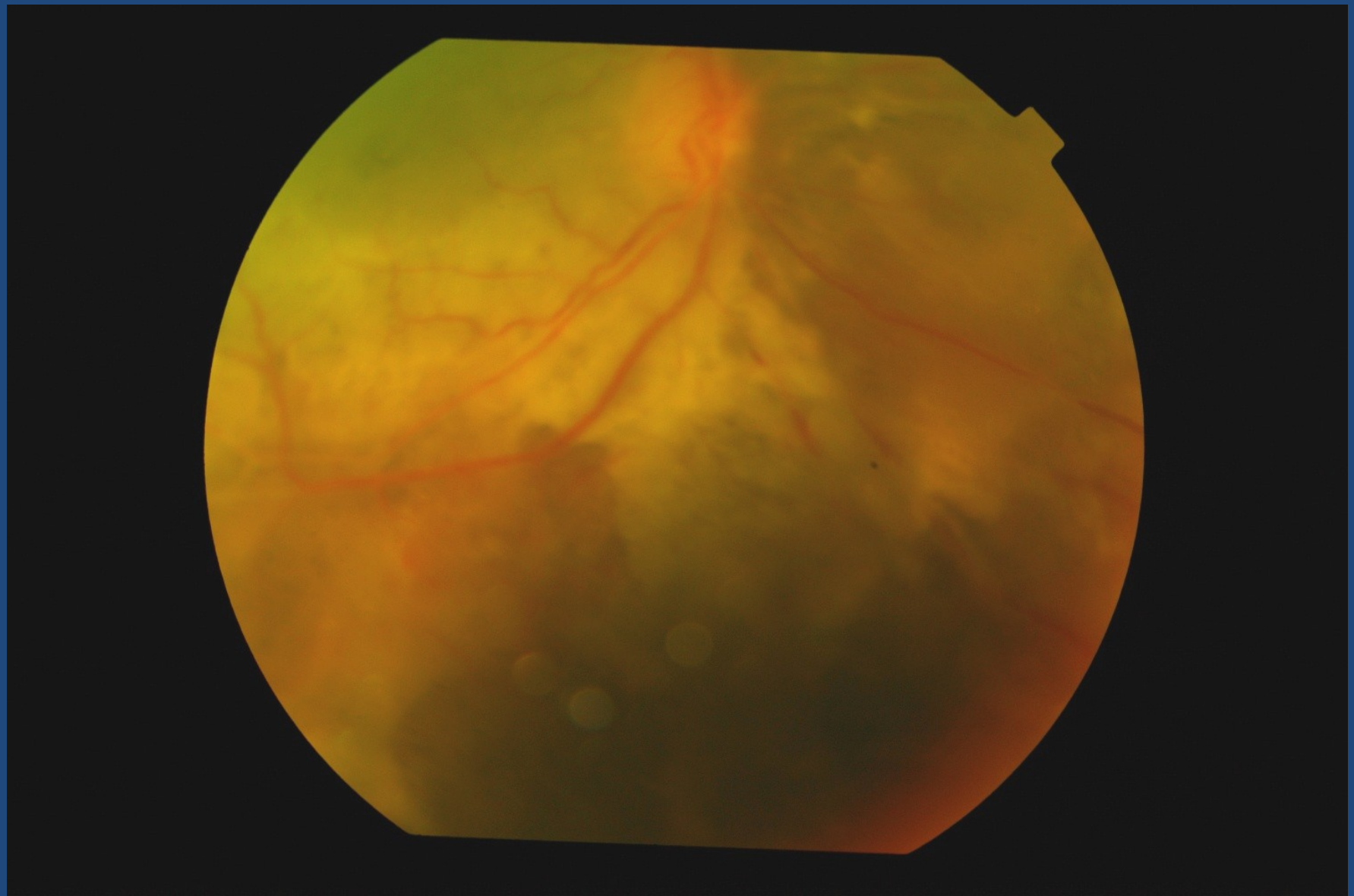


Progressive Outer Retinal Necrosis

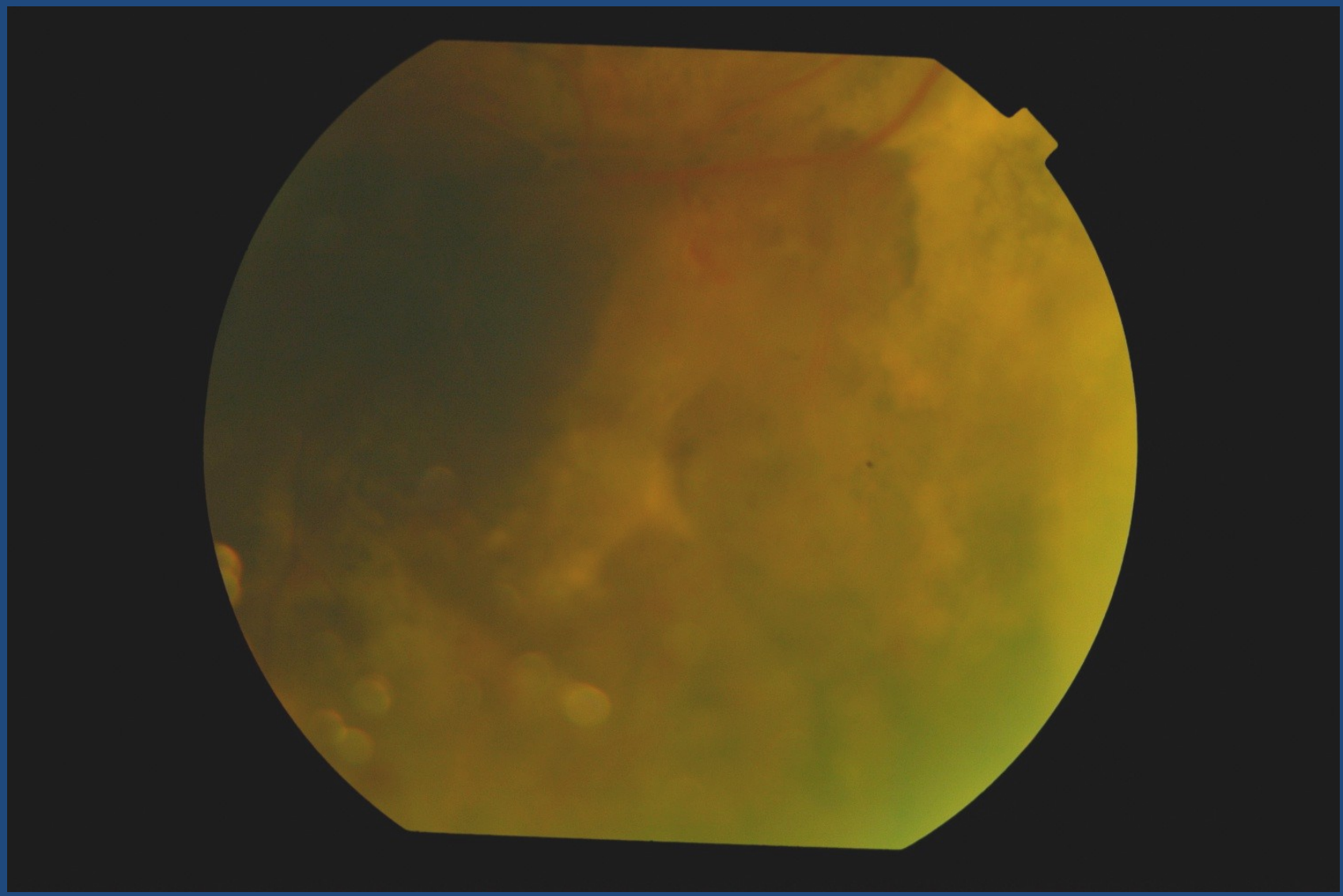
- Deep Retinal Lesion
- Retinal vessels spared
- Cracked-mud appearance
- Rapid blindness
- HZV
- Acyclovir



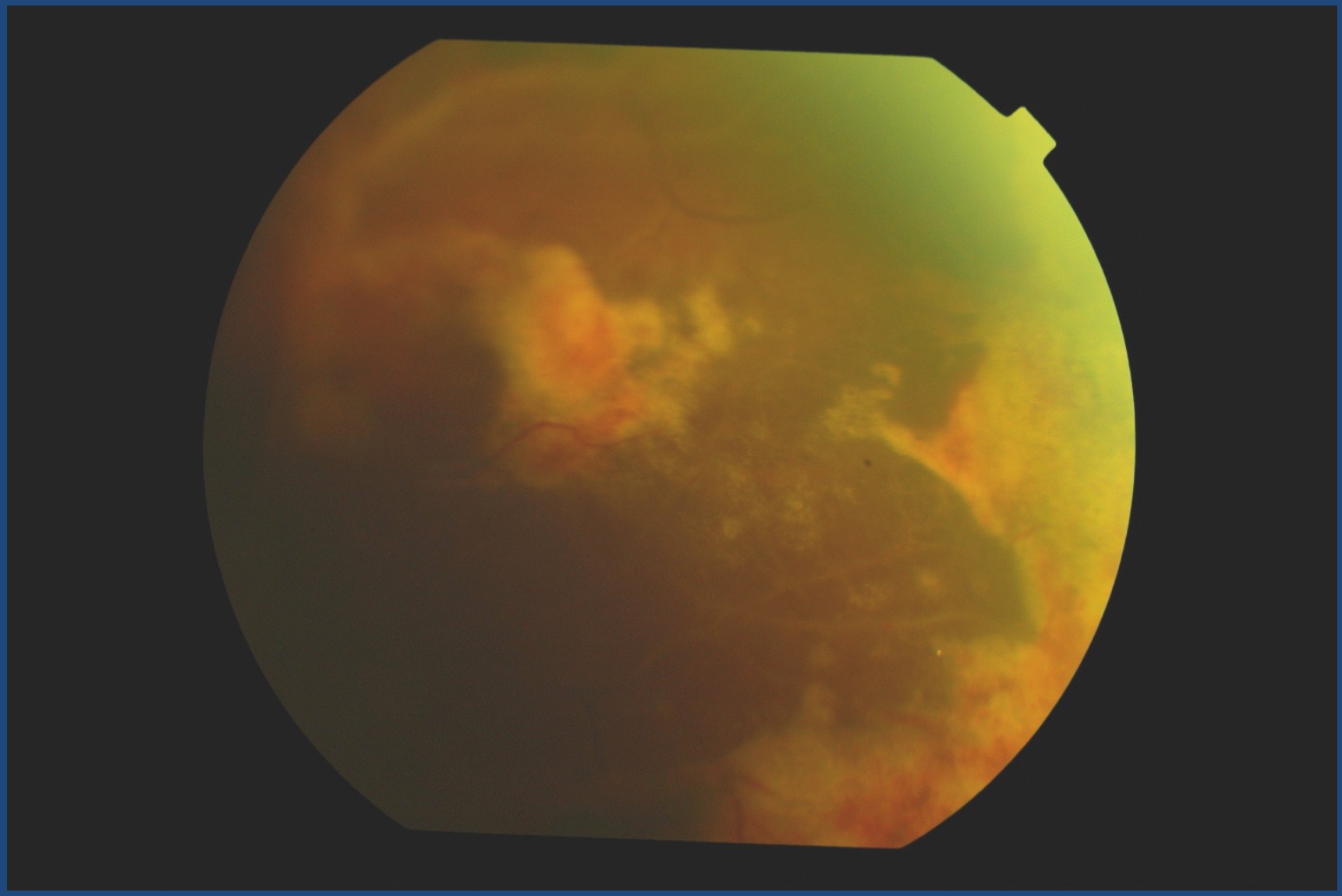
Progressive Outer Retinal Necrosis



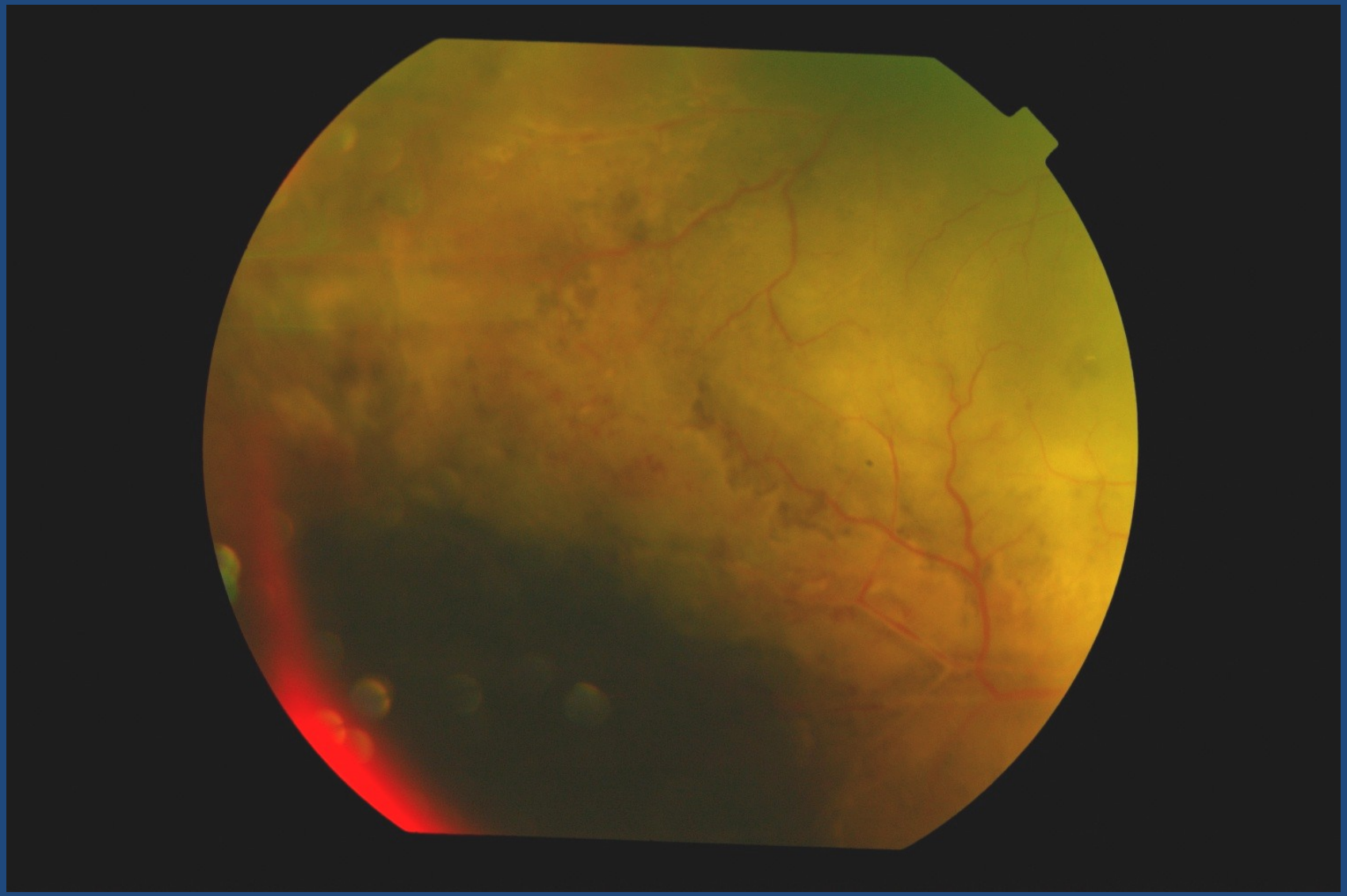
Progressive Outer Retinal Necrosis



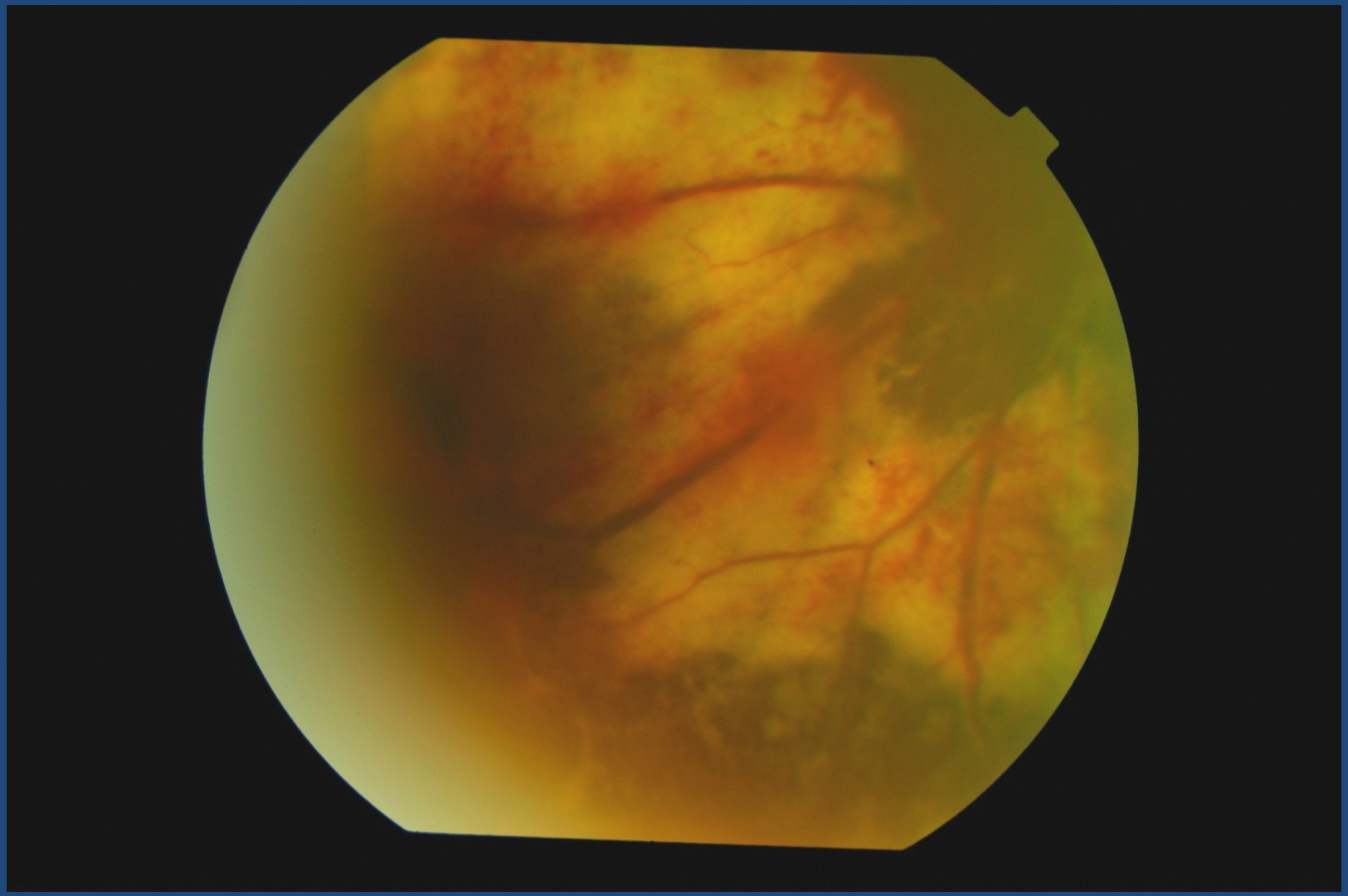
Progressive Outer Retinal Necrosis



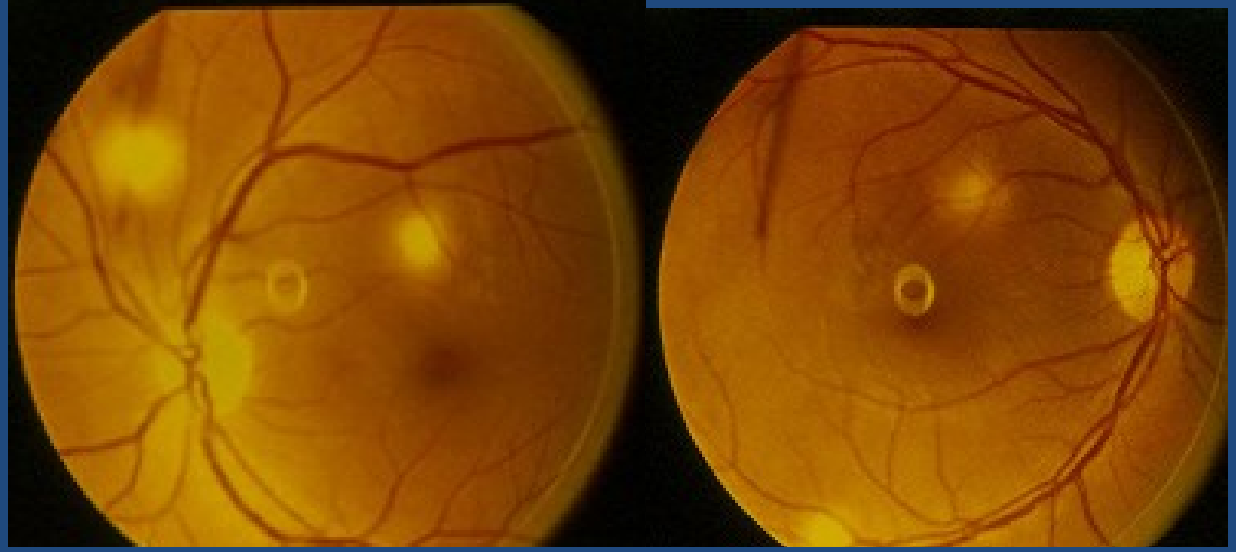
Progressive Outer Retinal Necrosis



Progressive Outer Retinal Necrosis



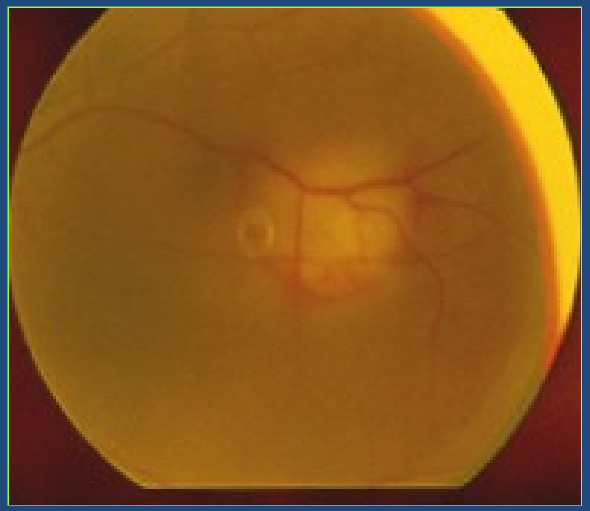
Pneumocystis carinii choroidopathy



- On routine screening
- Visually asymptomatic
- Coin-shaped choroidal lesions
- Guide physician in therapy (pentamidine)

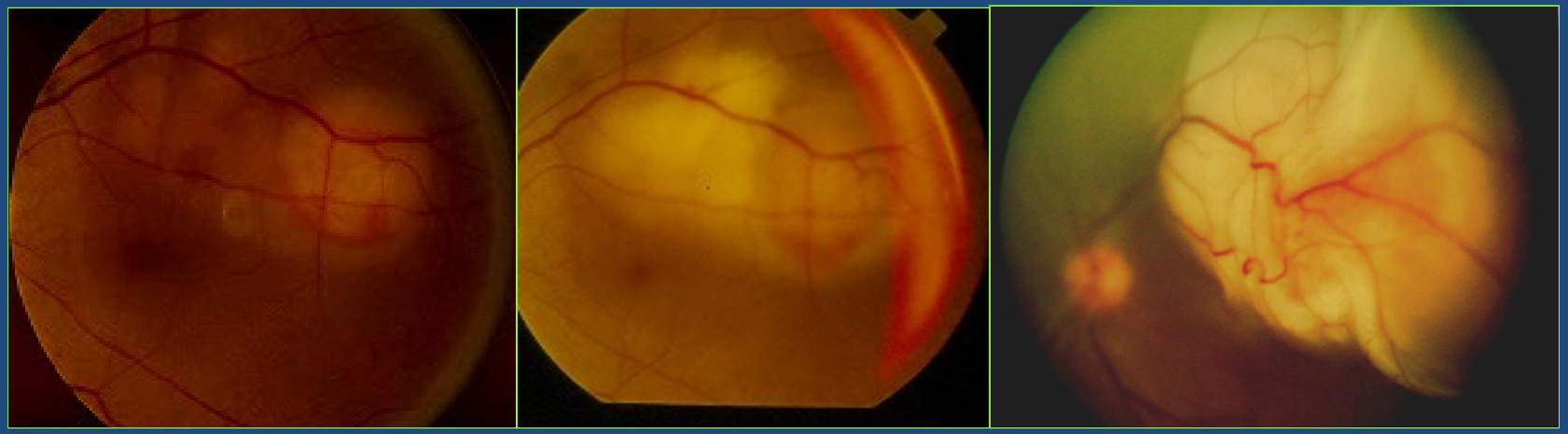
Case

- 30 years, male
- LE occasional vitreous cells
- Microbiological studies negative

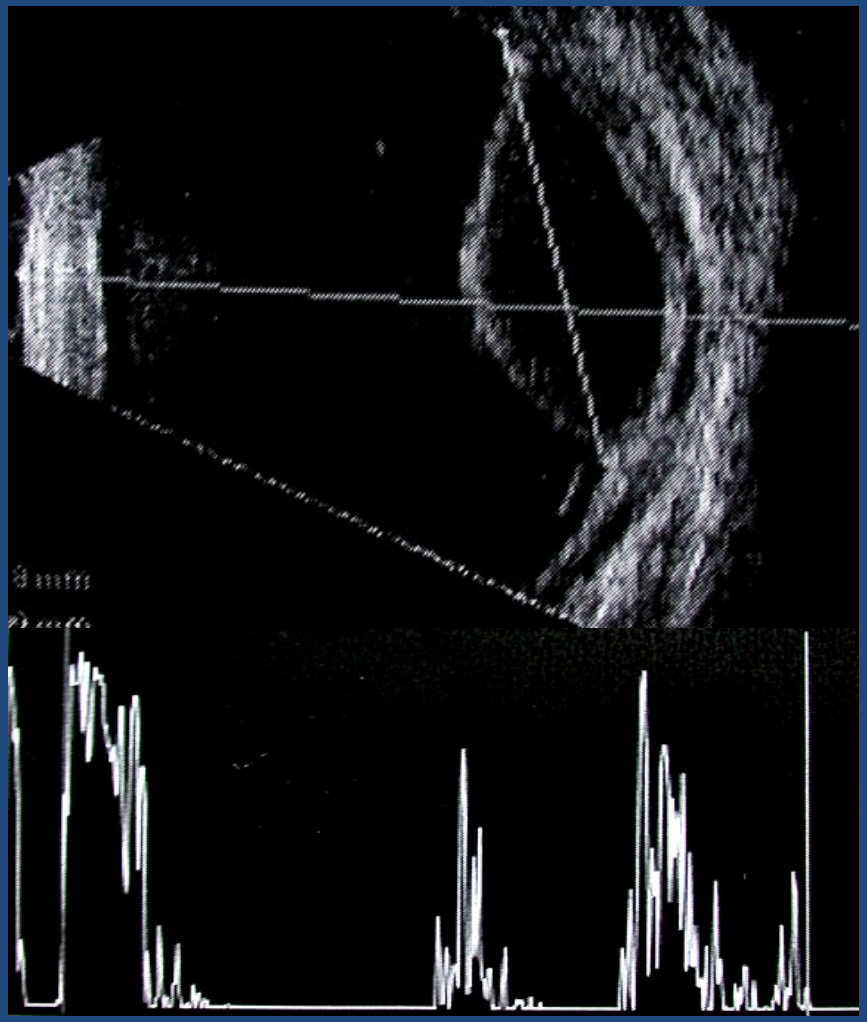


Ocular Tuberculosis

- Placed on four drug ATT
- Lesion continued to progress on therapy over 4 months

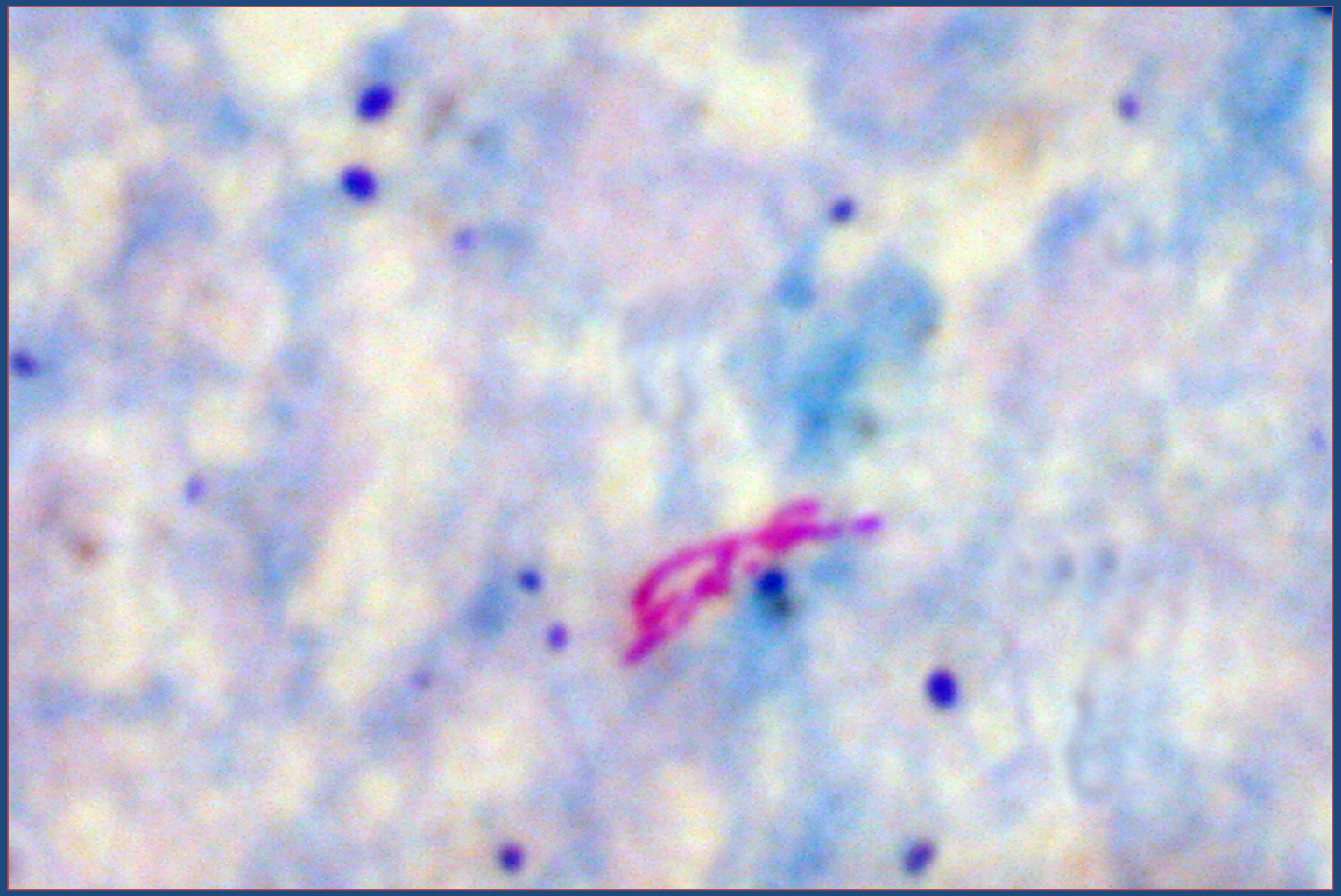


Ultrasound
16 mm diameter x 8 mm thick



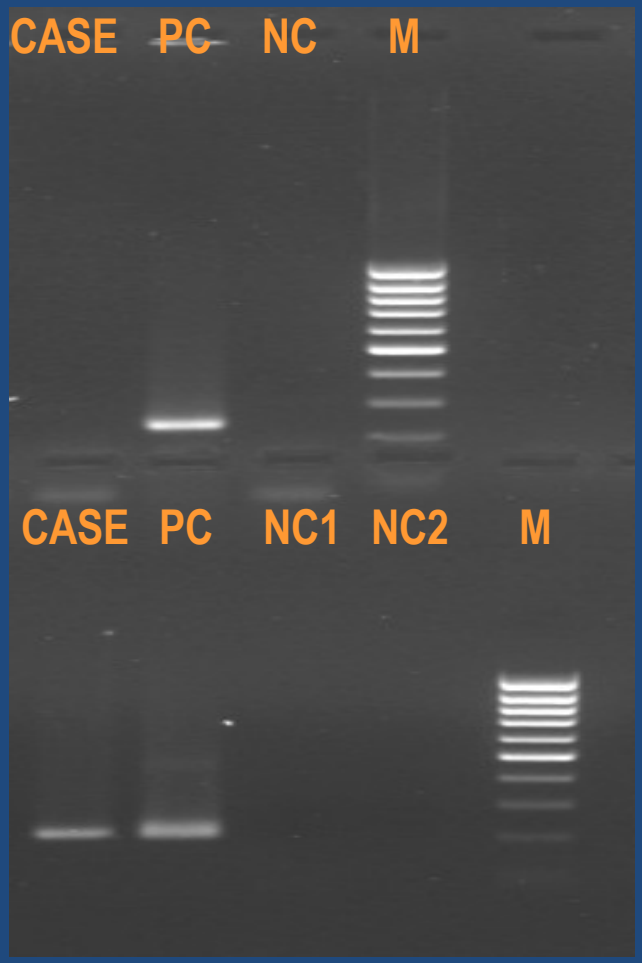
FNAC by trans-pars plana, trans- vitreal approach

Multiple acid-fast bacilli !



Nested PCR for M. *tuberculosis*

Round 1



Round 2

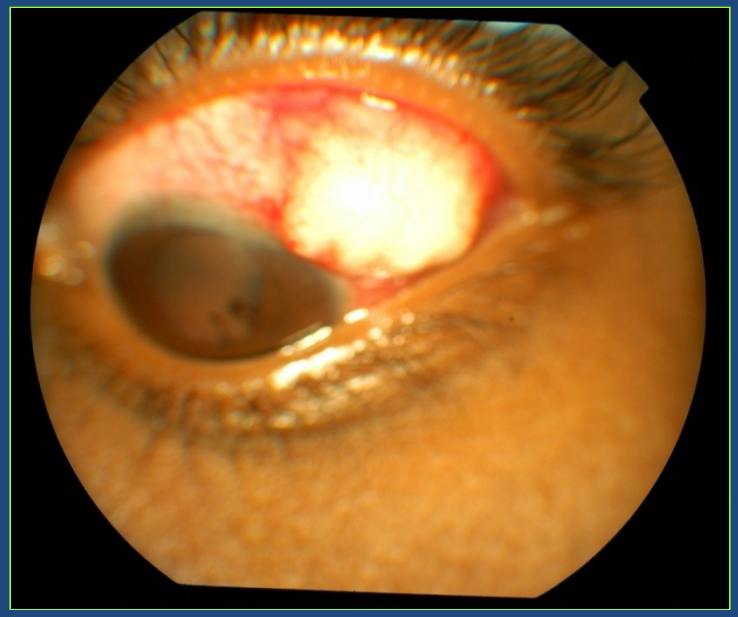
Multi-Drug Resistant
Tubercular Choroidal Granuloma

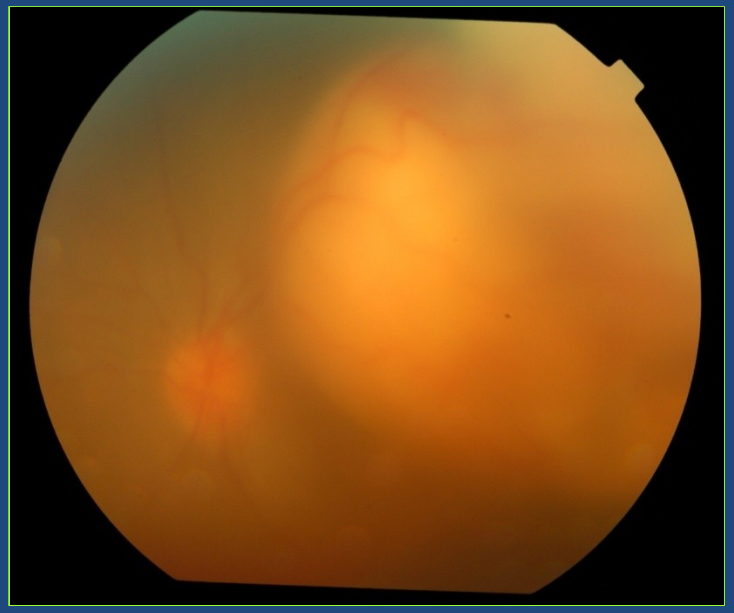
Outcome

- Seven-drug anti-tubercular therapy
- Regression of lesion with resolution of retinal detachment in 2 months

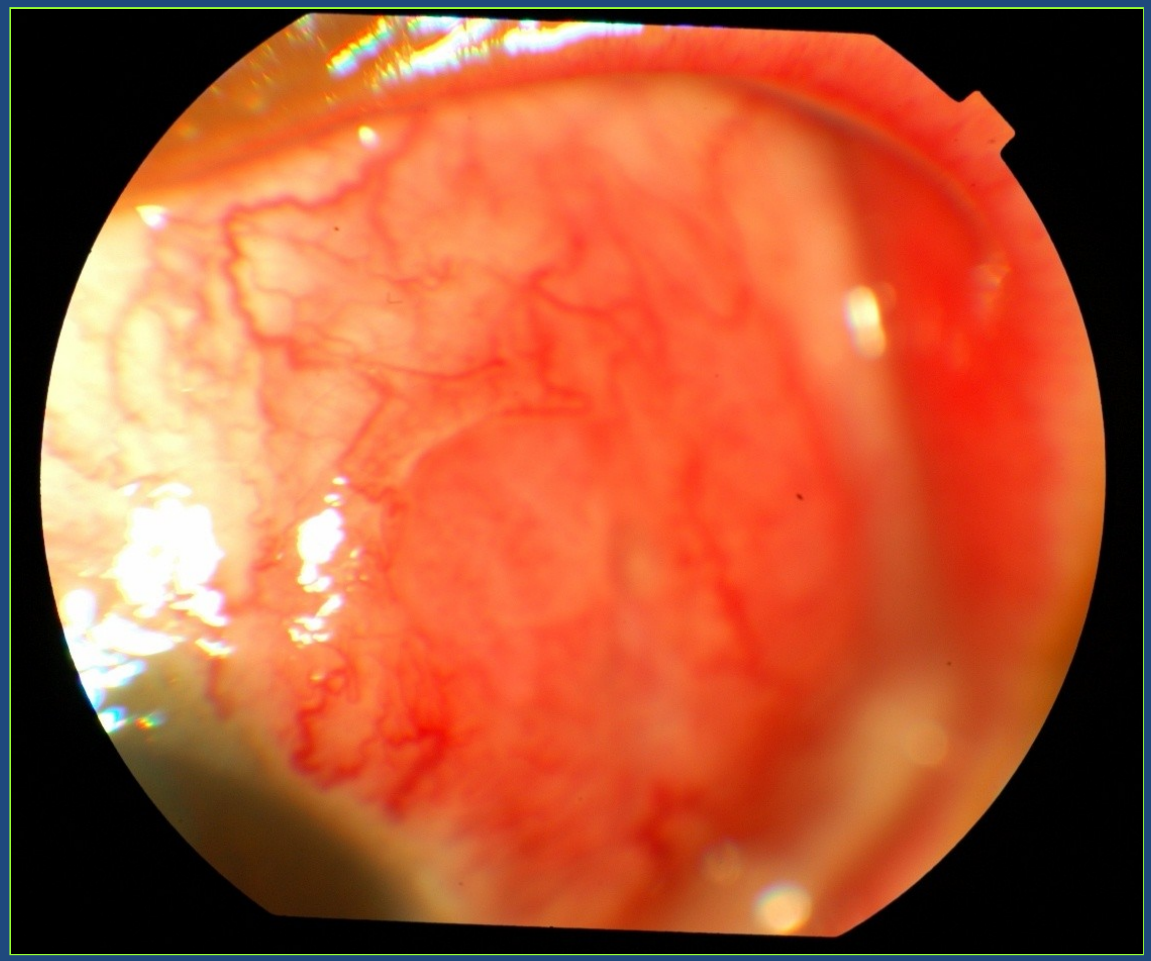
6 months later

- Had discontinued ART & ATT
- Choroidal & Scleral granuloma

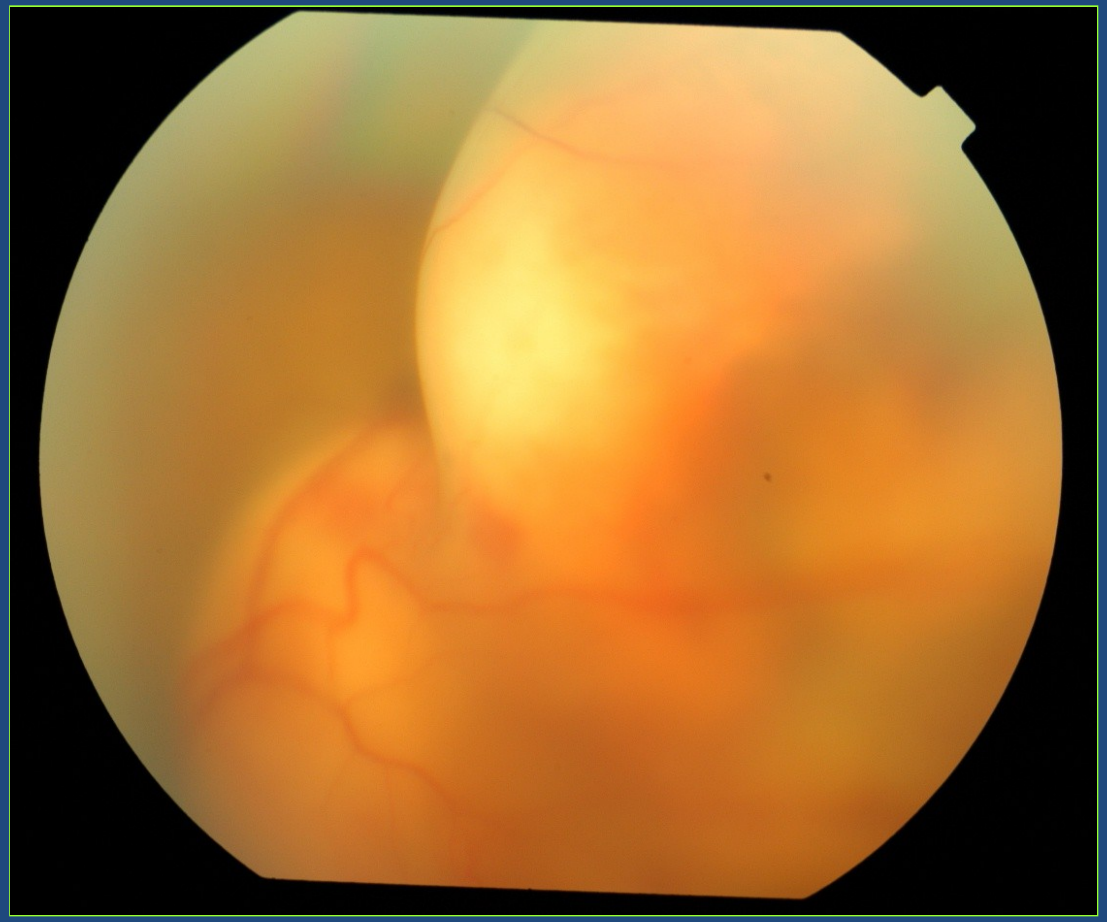




Scleral granuloma ? Relation to needle entry

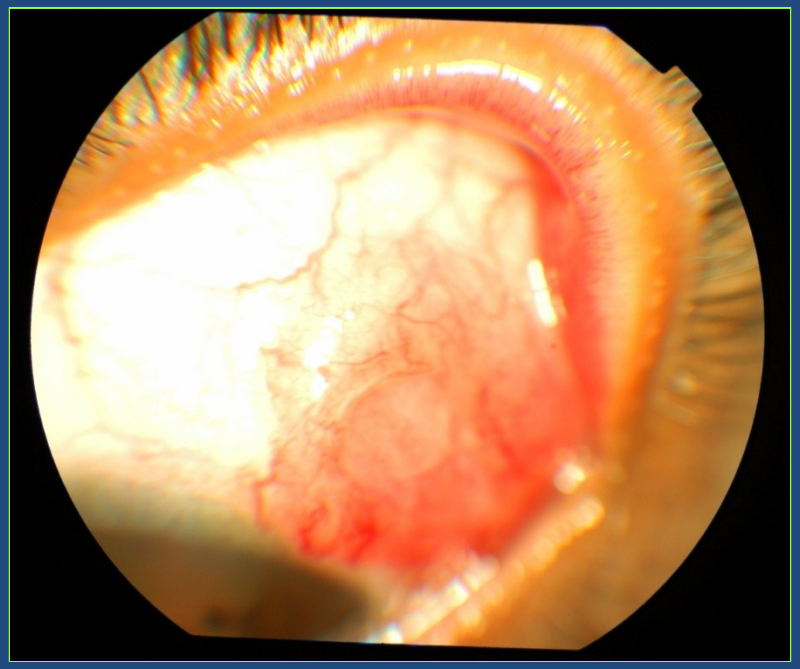


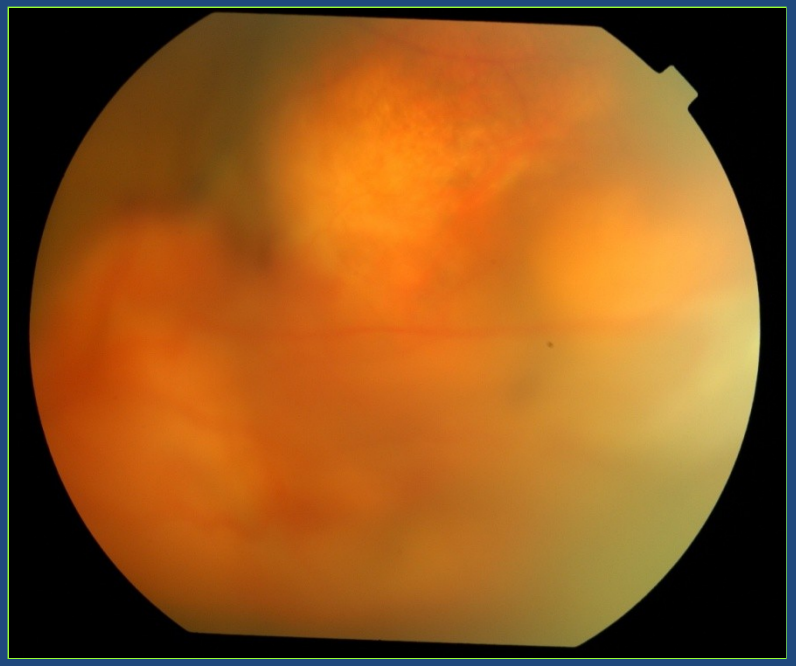
Choroidal granuloma with exudative RD

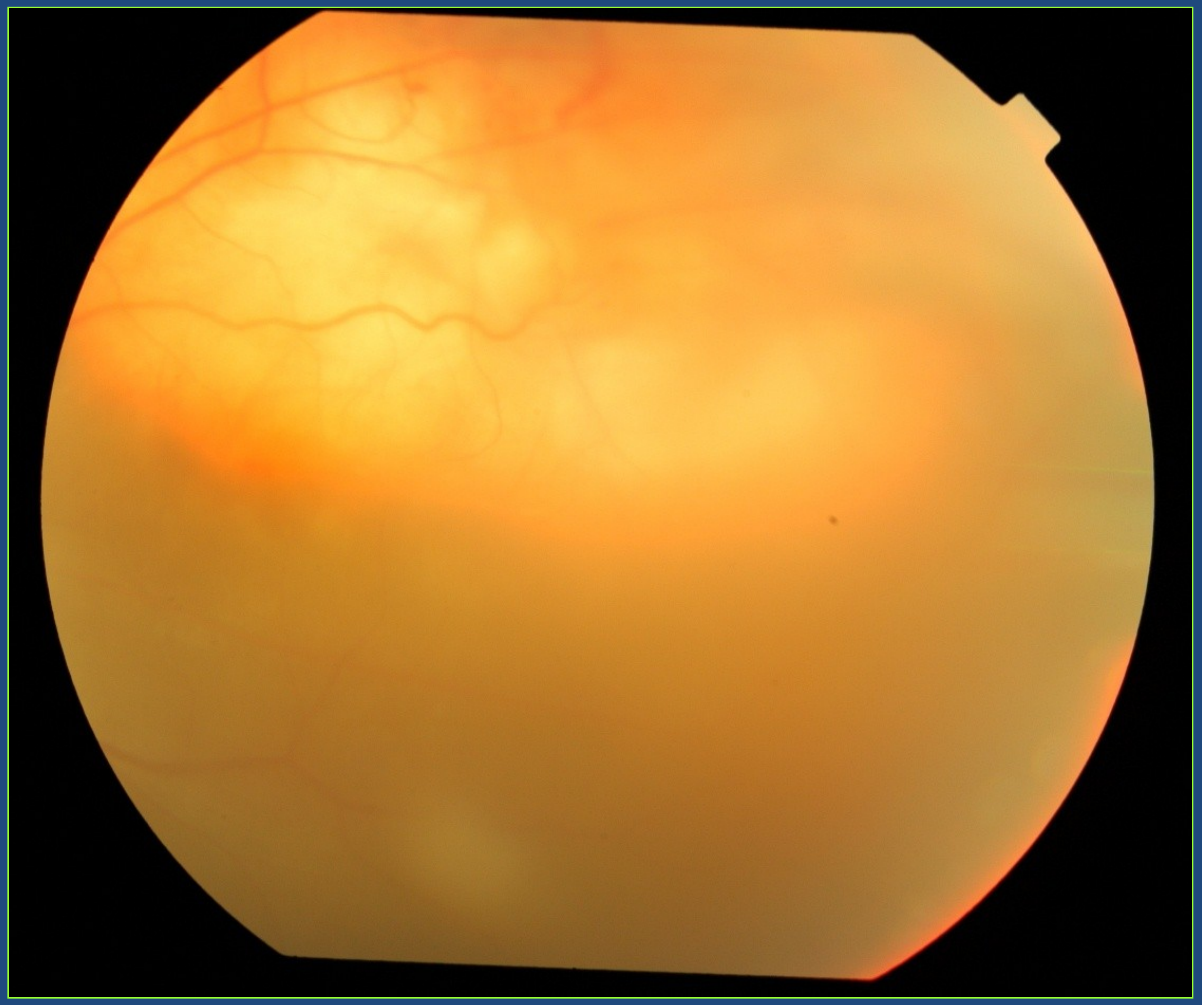


2 weeks later

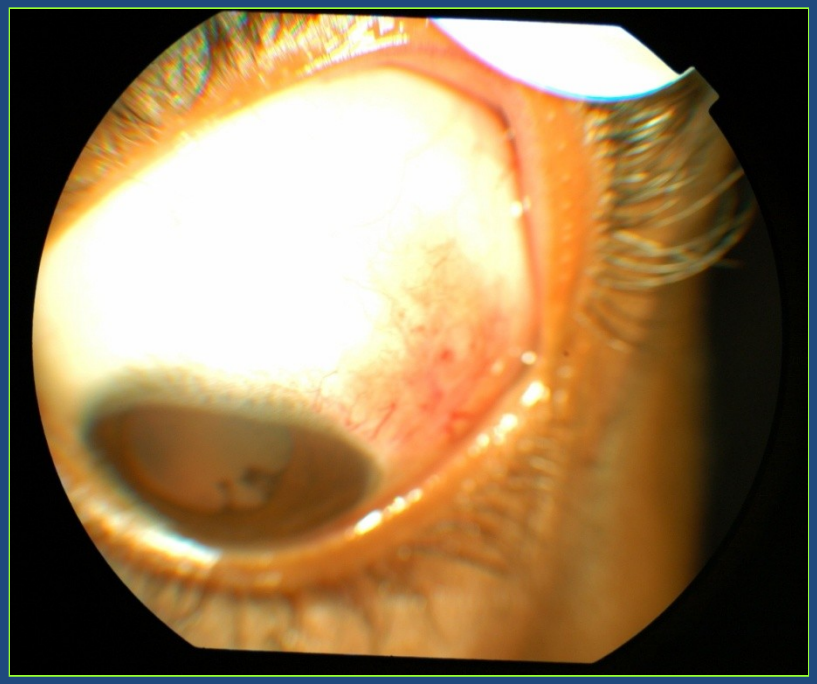
- Restarted ART & ATT
- Resolving lesions

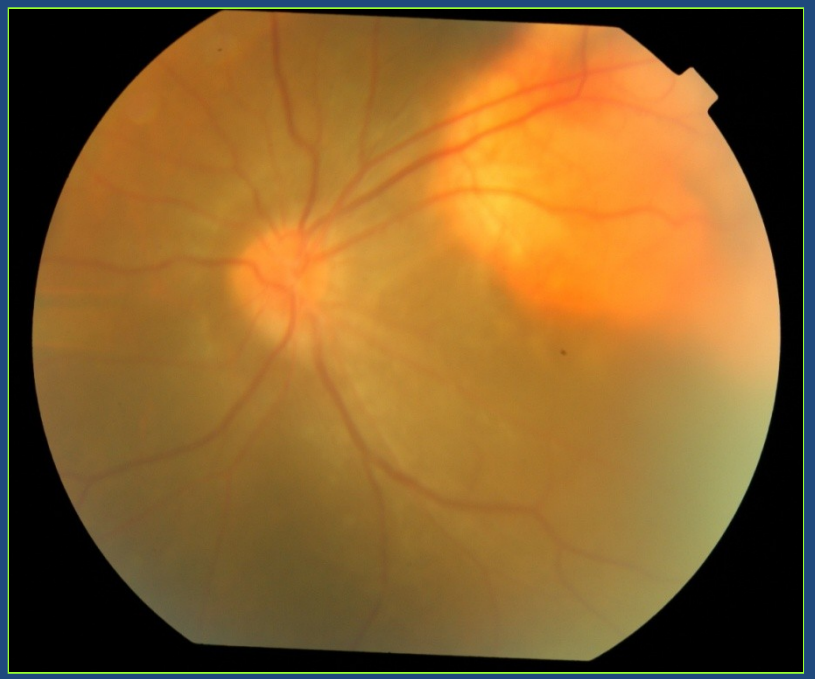




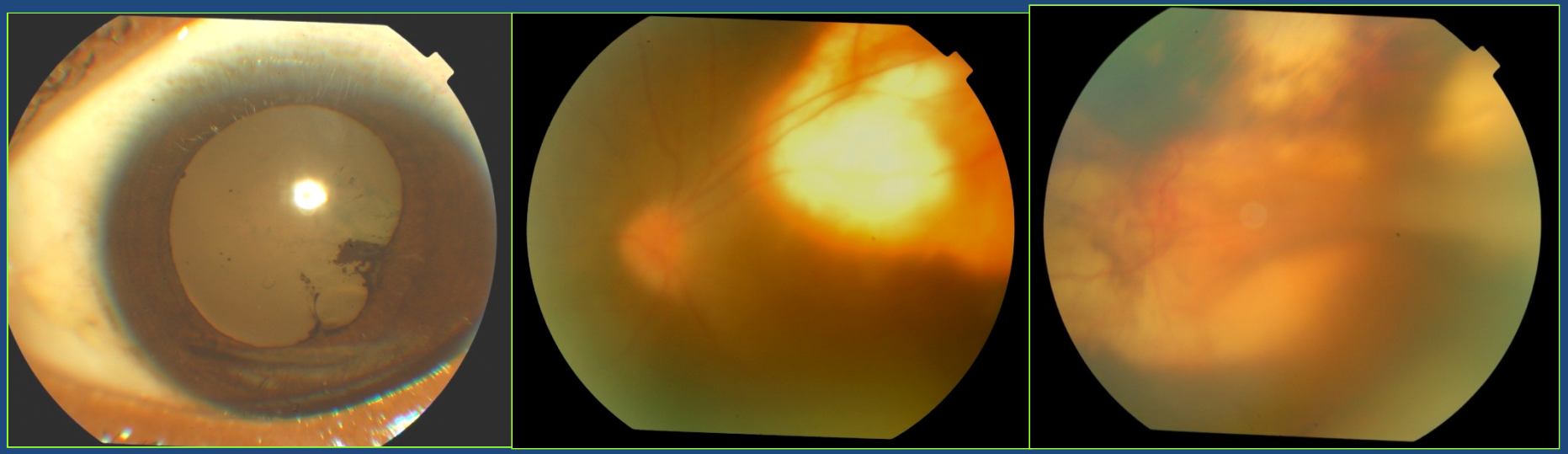


4 weeks later

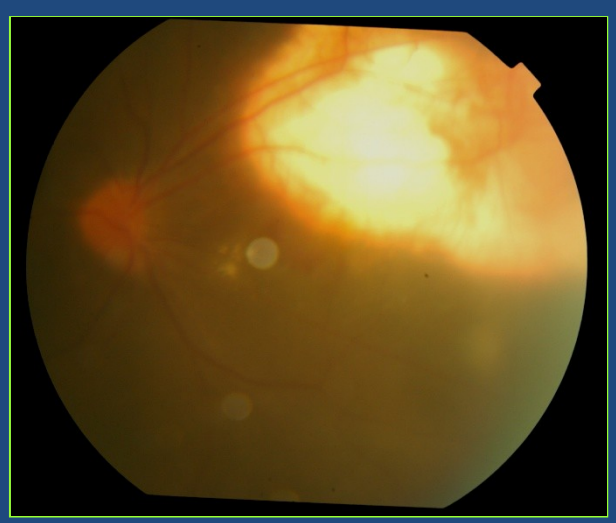


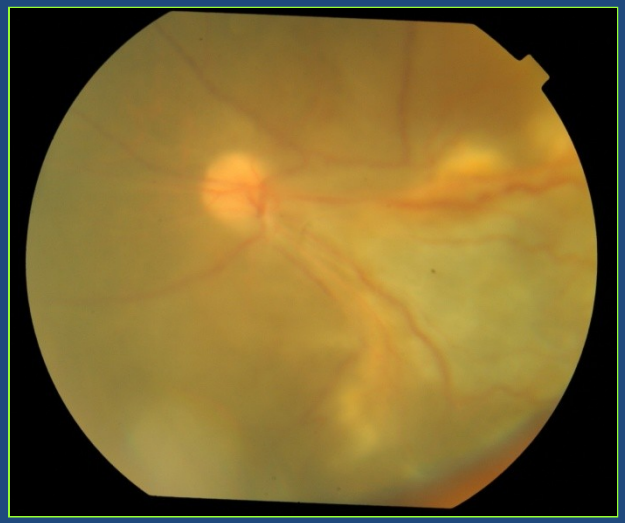


9 months later



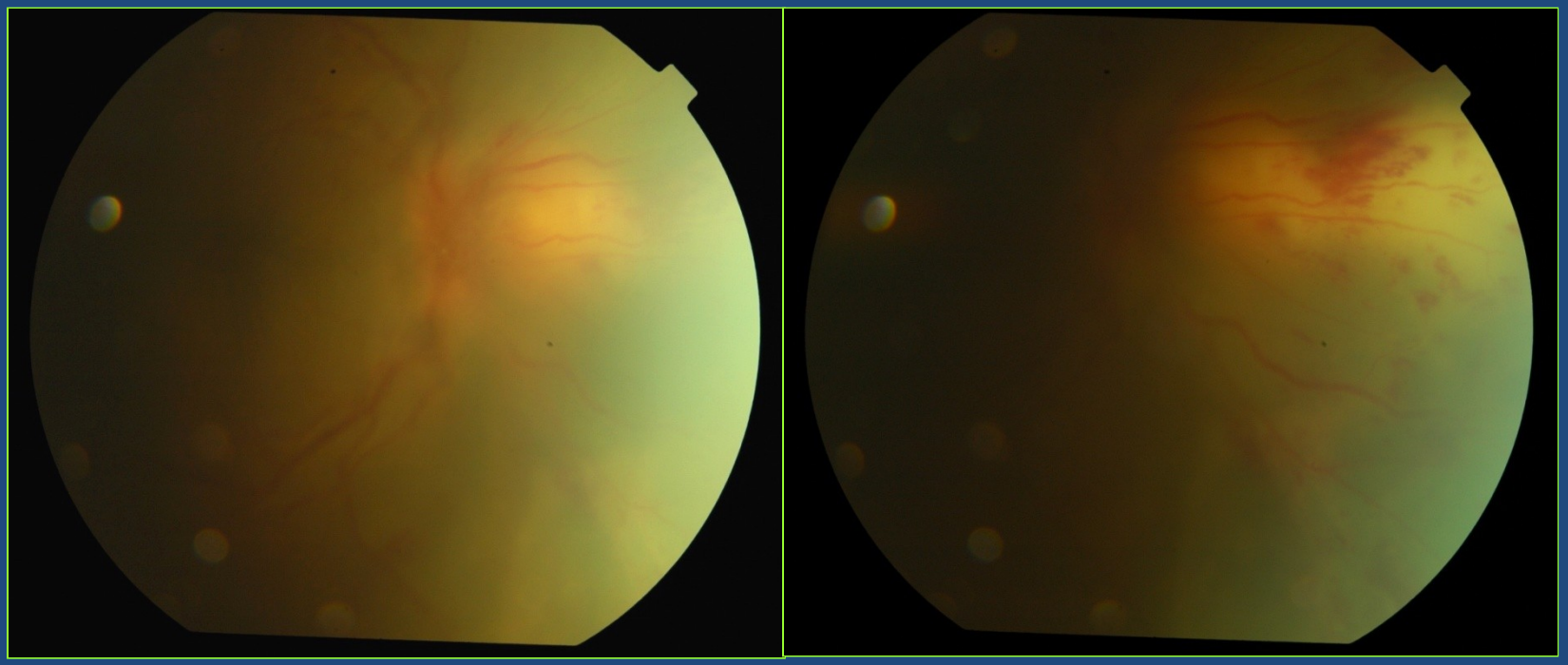
Ocular TB in the HIV-infected





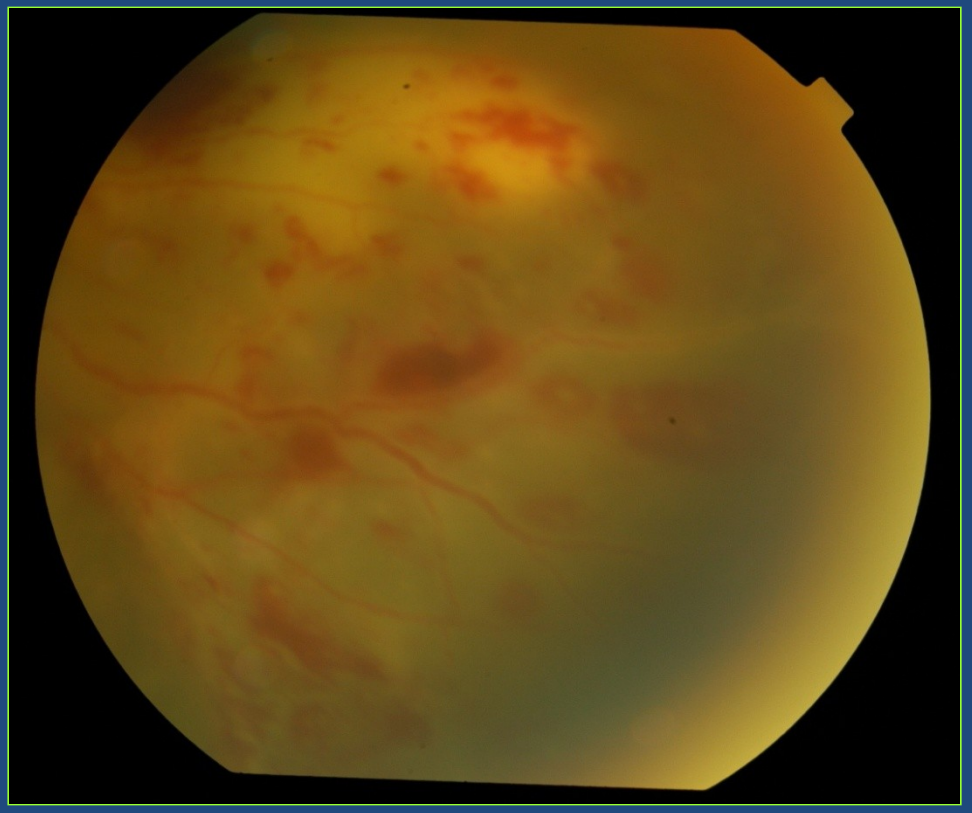
Right Eye

- Iritis, posterior synechiae
- Undilating pupil



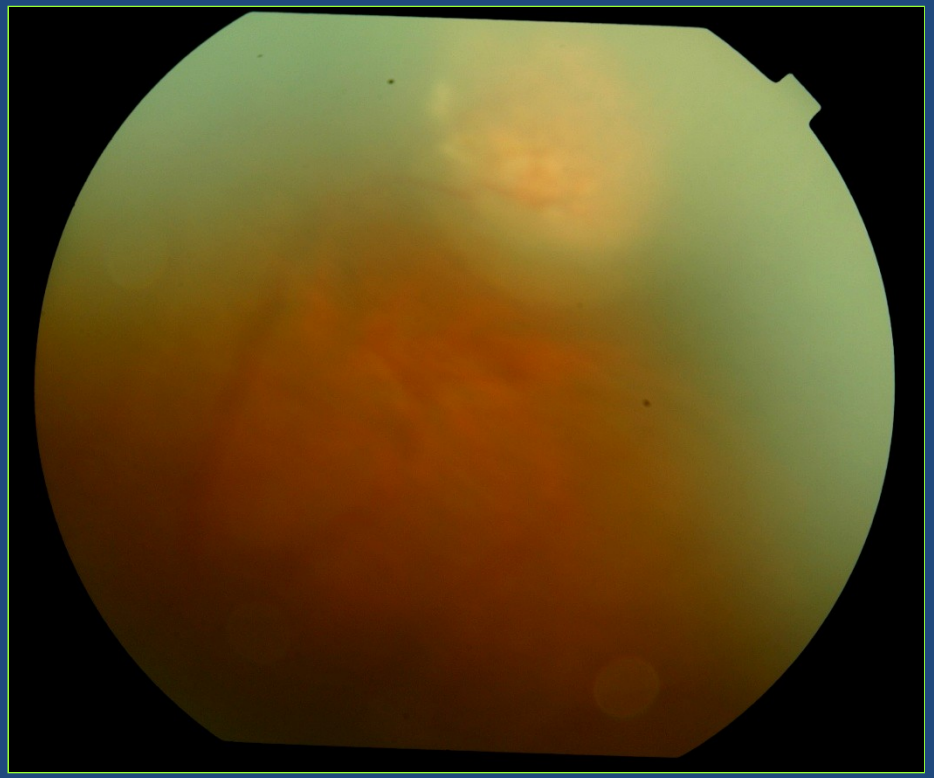
Right Eye

Nasal mid-periphery



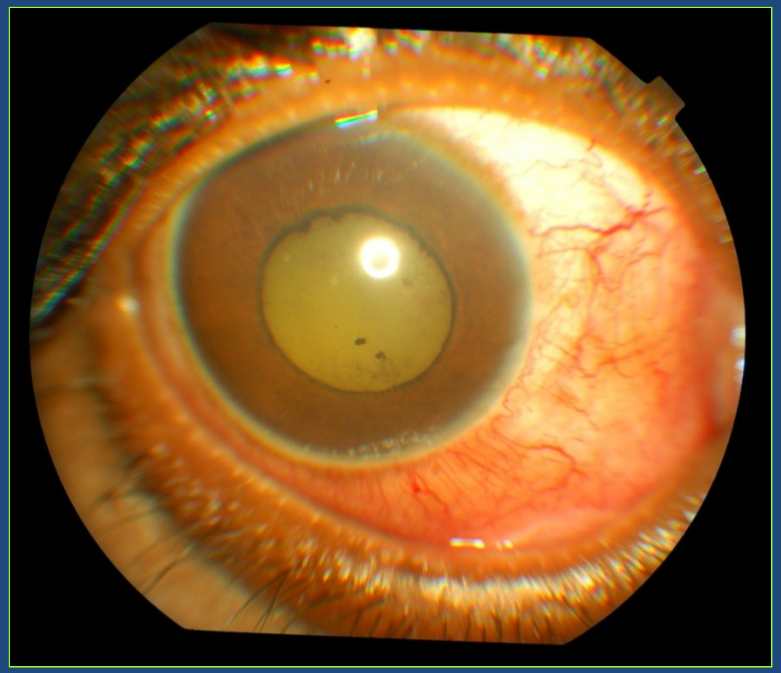
Left Eye

- Asymptomatic
- Superior Periphery



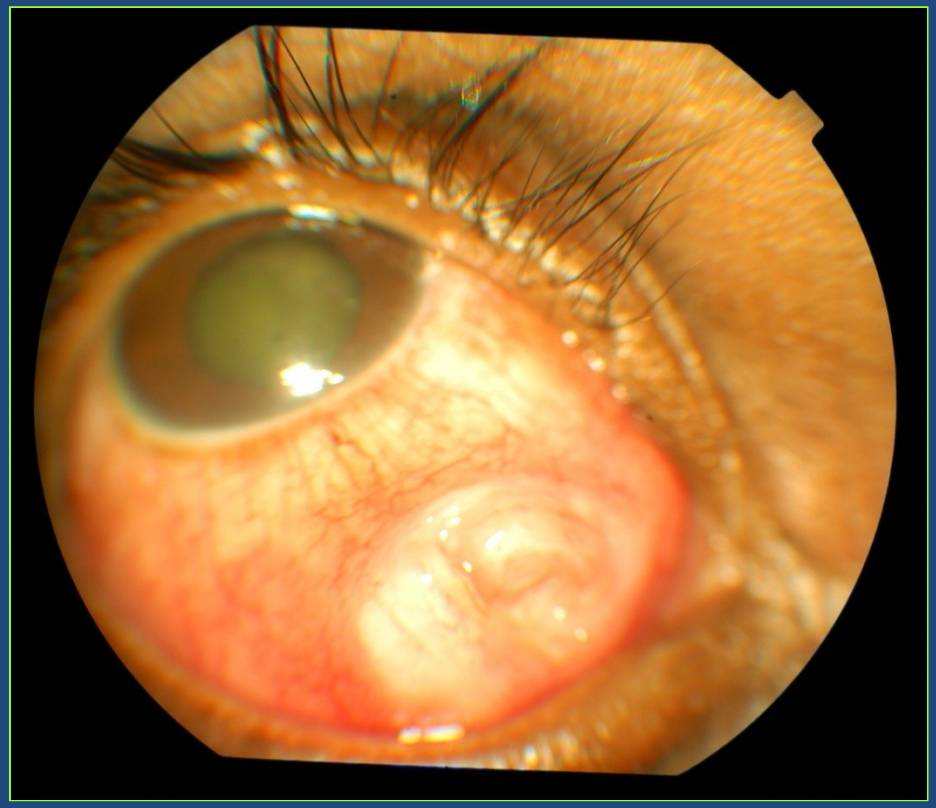
Right Eye: 4 weeks later

- NVI, no view fundus
- Second-line ATT added



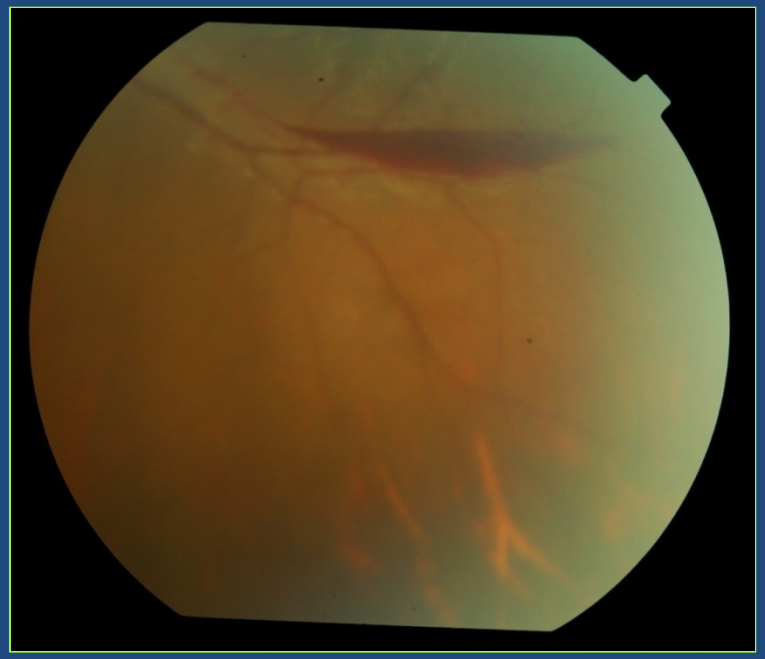
Right Eye: 6 weeks later

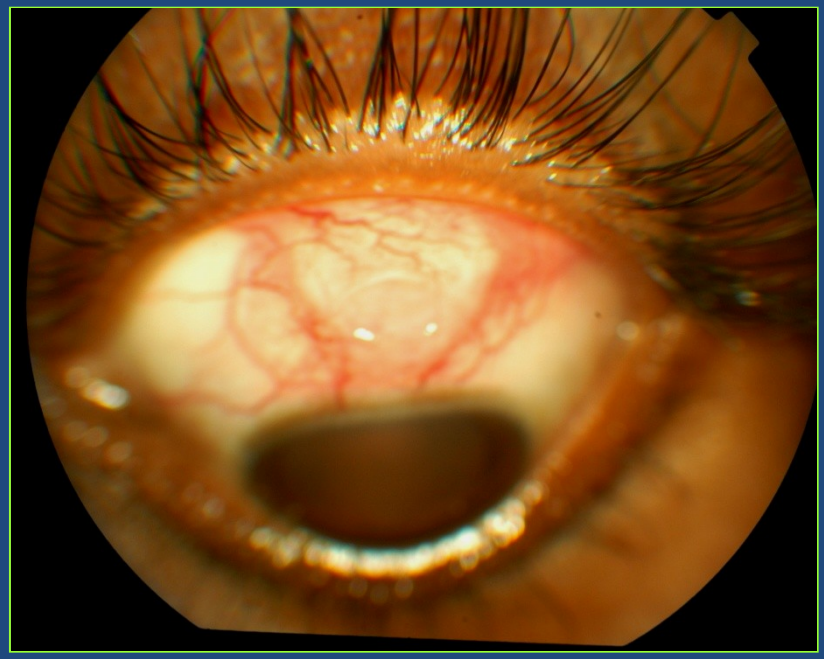
- Scleral granuloma



Left Eye: at 6 weeks

- Vitreous haemorrhage
- Scleral granuloma

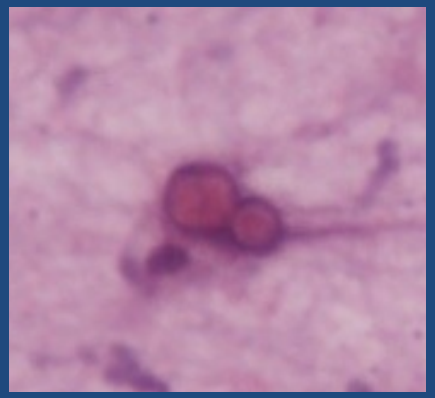


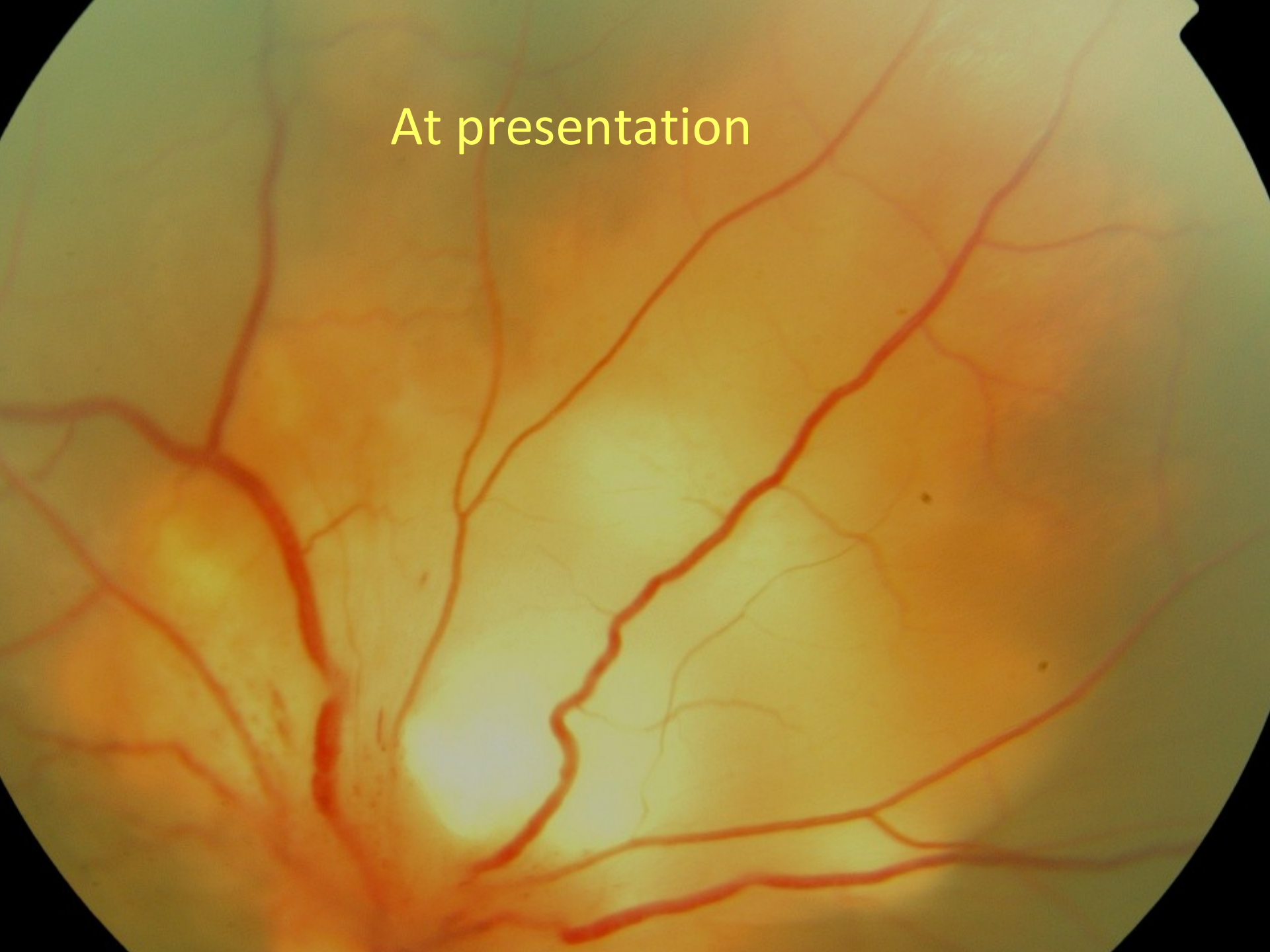


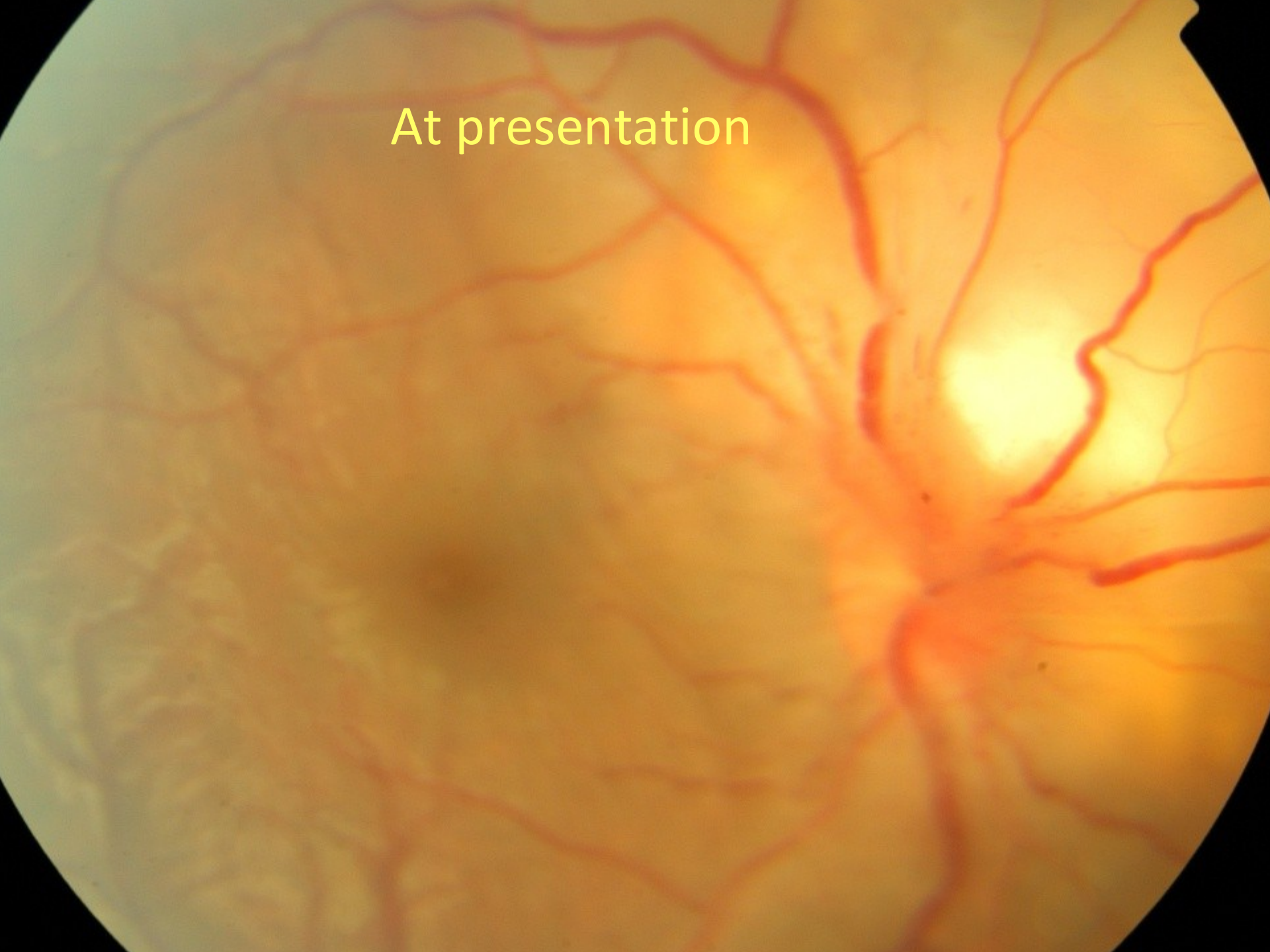
Case

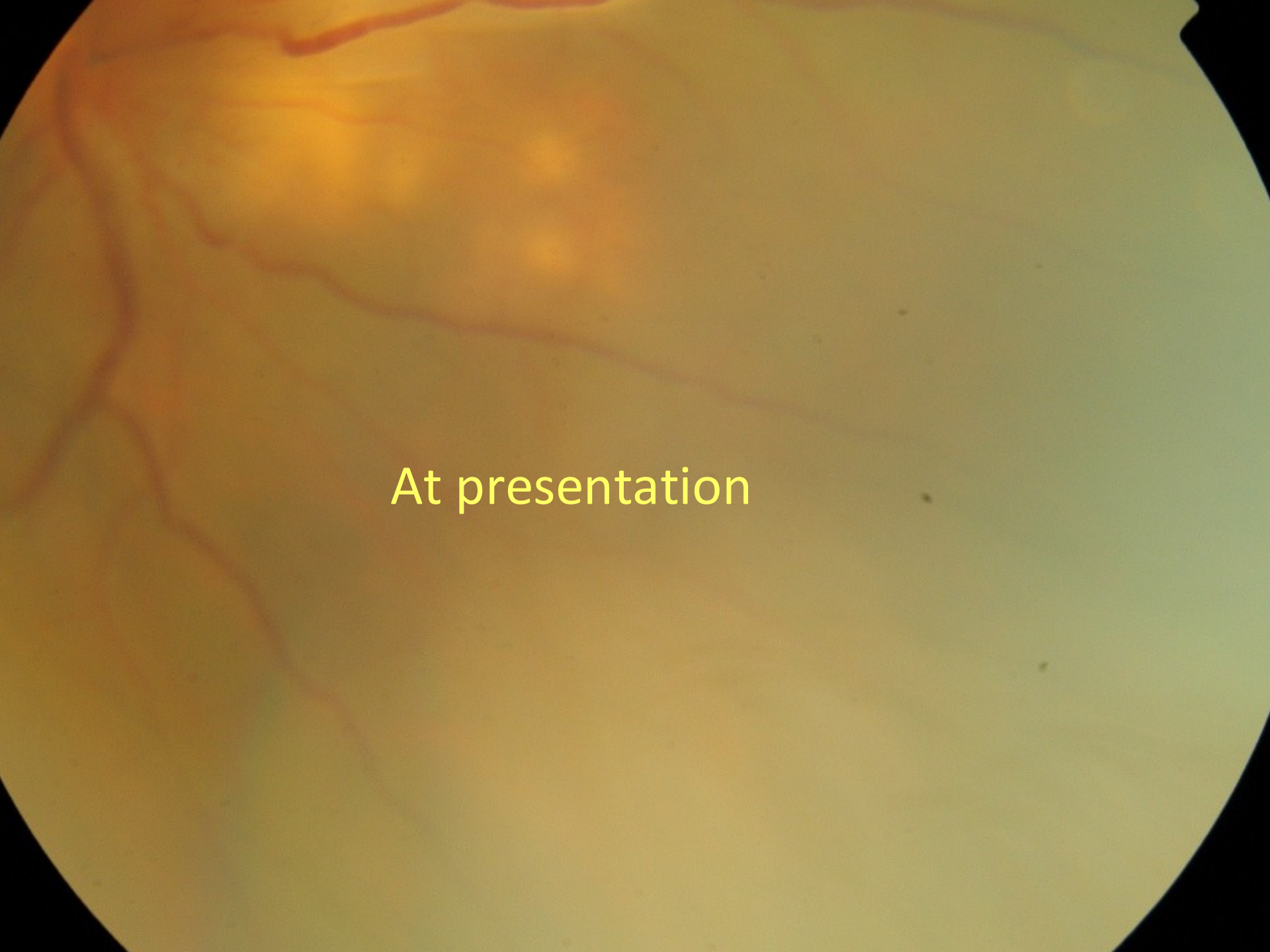
- A 29 y.o. gentleman presented with disseminated systemic blastomycosis &

  LE vision drop
- Lymph node biopsy had confirmed the diagnosis
- Returned from South America which is endemic for this infection (transmitted via respiratory system)



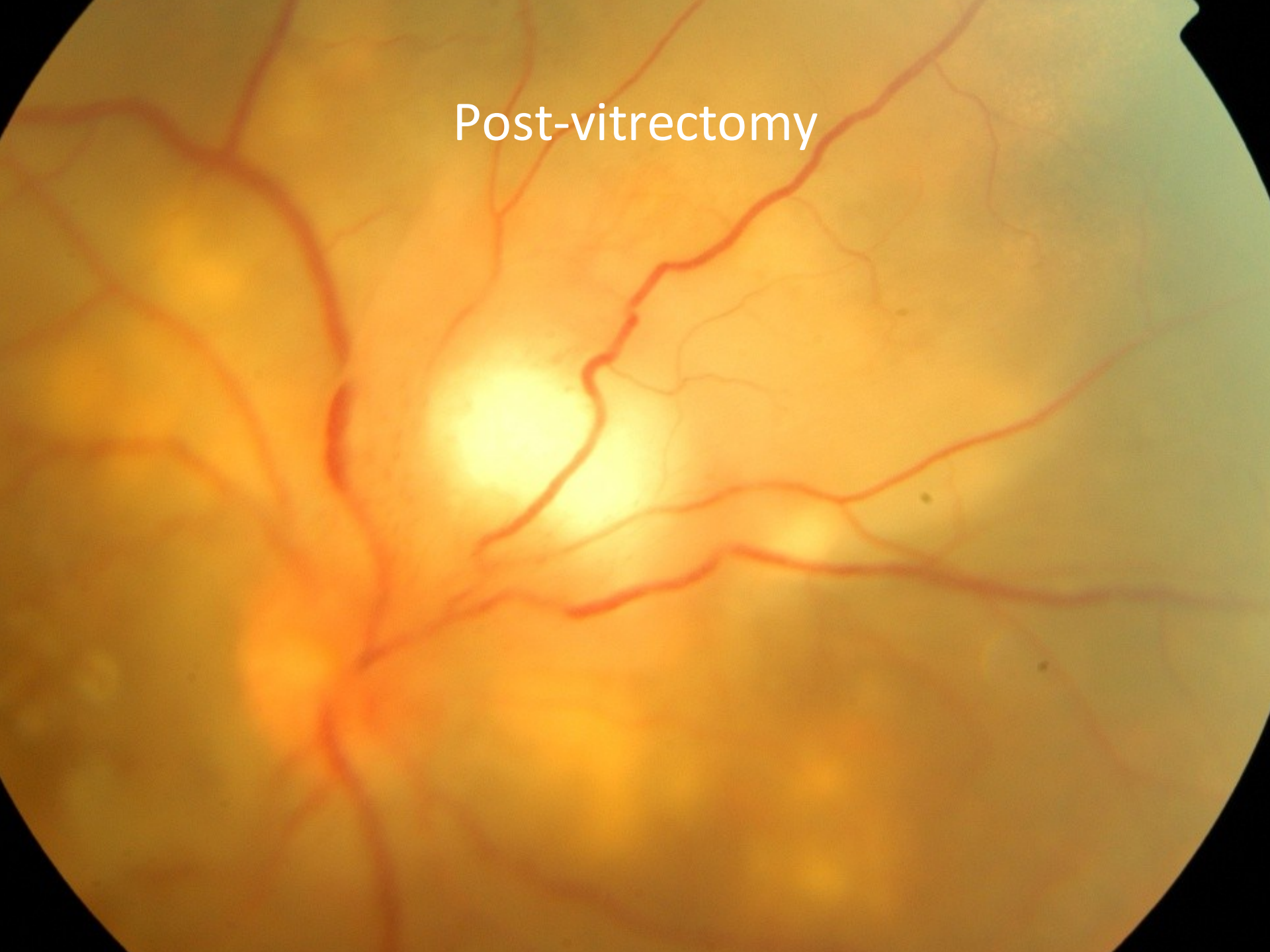

At presentation

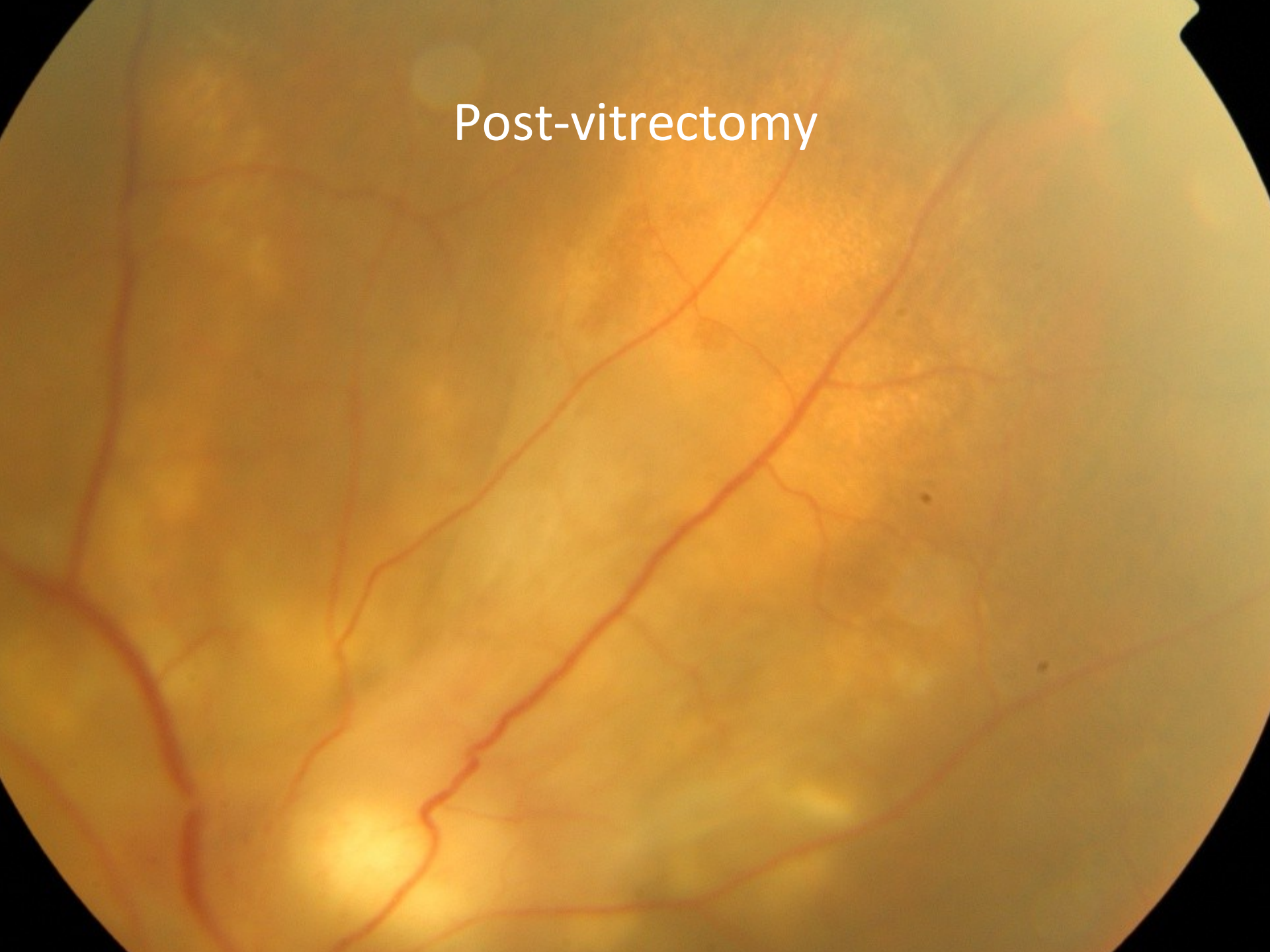

At presentation


At presentation

Case

- IV voriconazole 200 mg bid x 2 weeks followed by oral voriconazole 200 mg bid for 6 months
- Vitrectomy with intravitreal amphotericin B + voriconazole + cefazolin performed
- Further 2 intravitreal injections of the combination
- Resolution 8 weeks


Post-vitrectomy


Post-vitrectomy

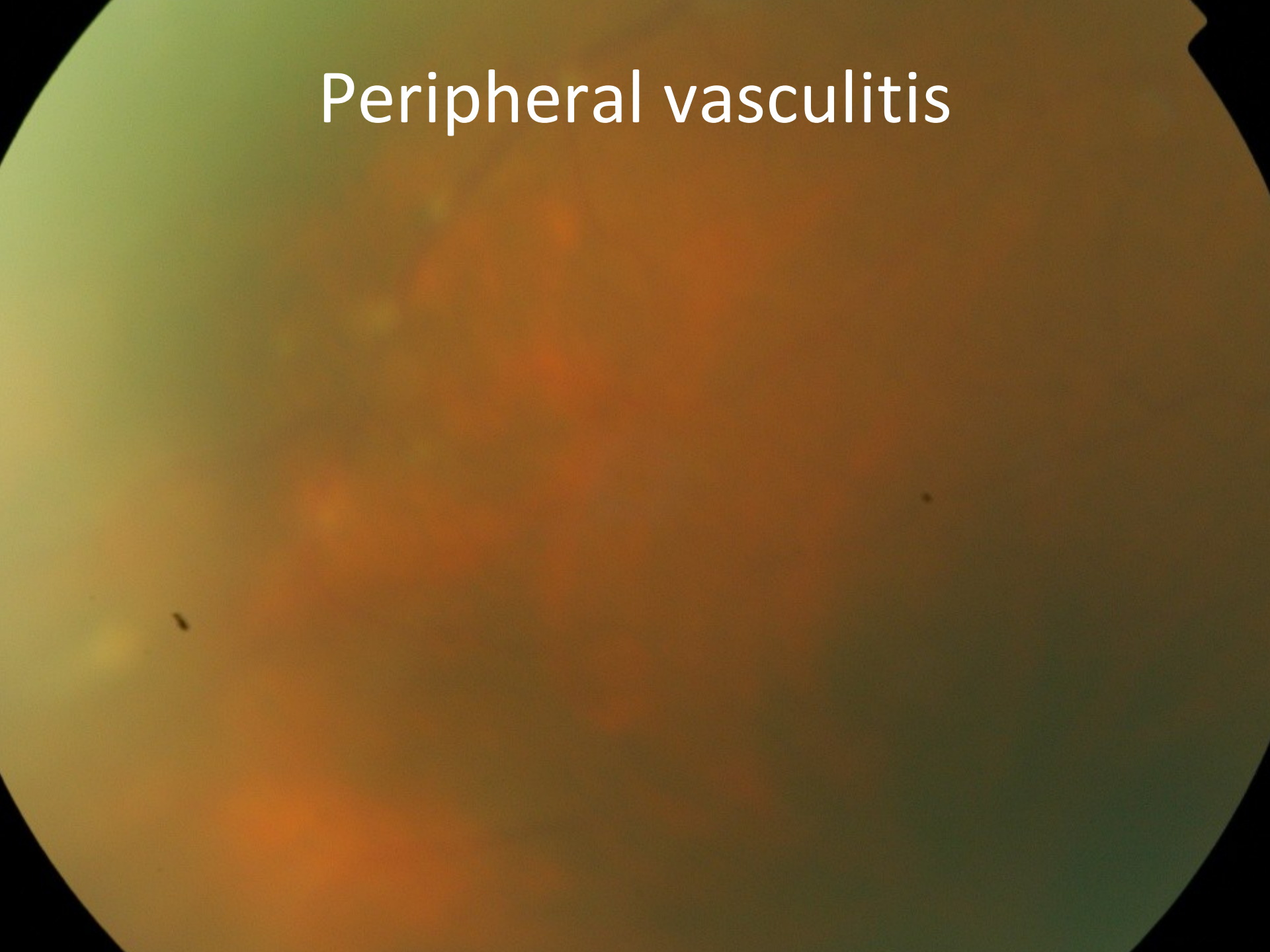

2 weeks later


At 8 weeks
VA 20/20

Choroidal granulomas

- 40 year old gentleman
- LN biopsy proven sarcoidosis
- Iridocyclitis recurrent

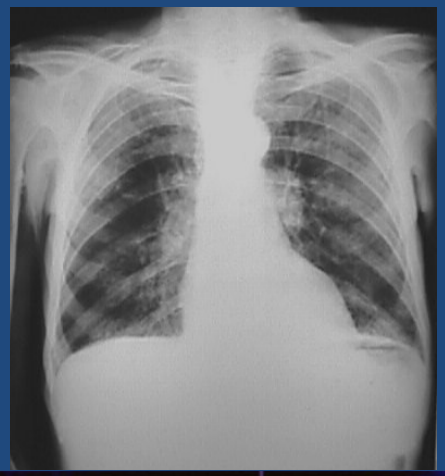
Peripheral vasculitis

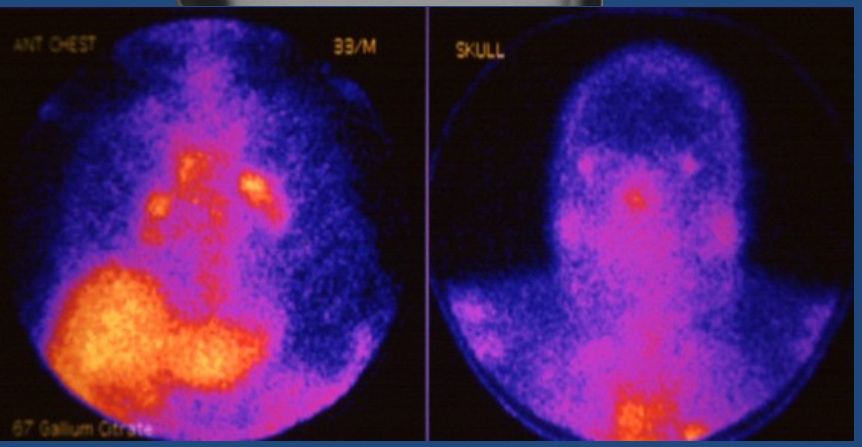



On steroids & azathioprine


On steroids & azathioprine

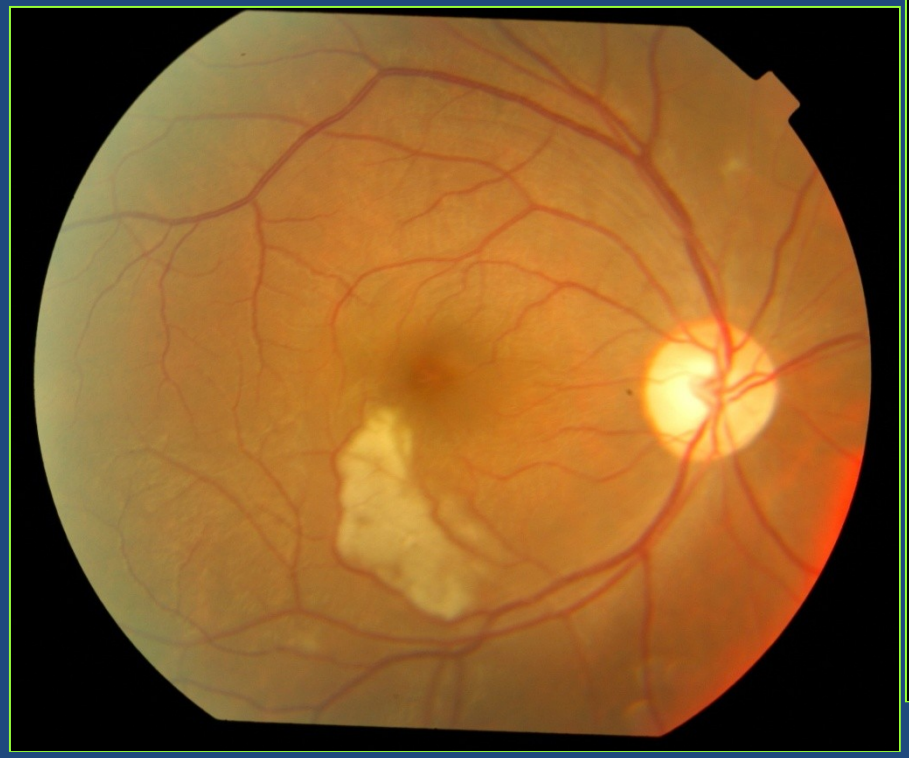
Sarcoidosis



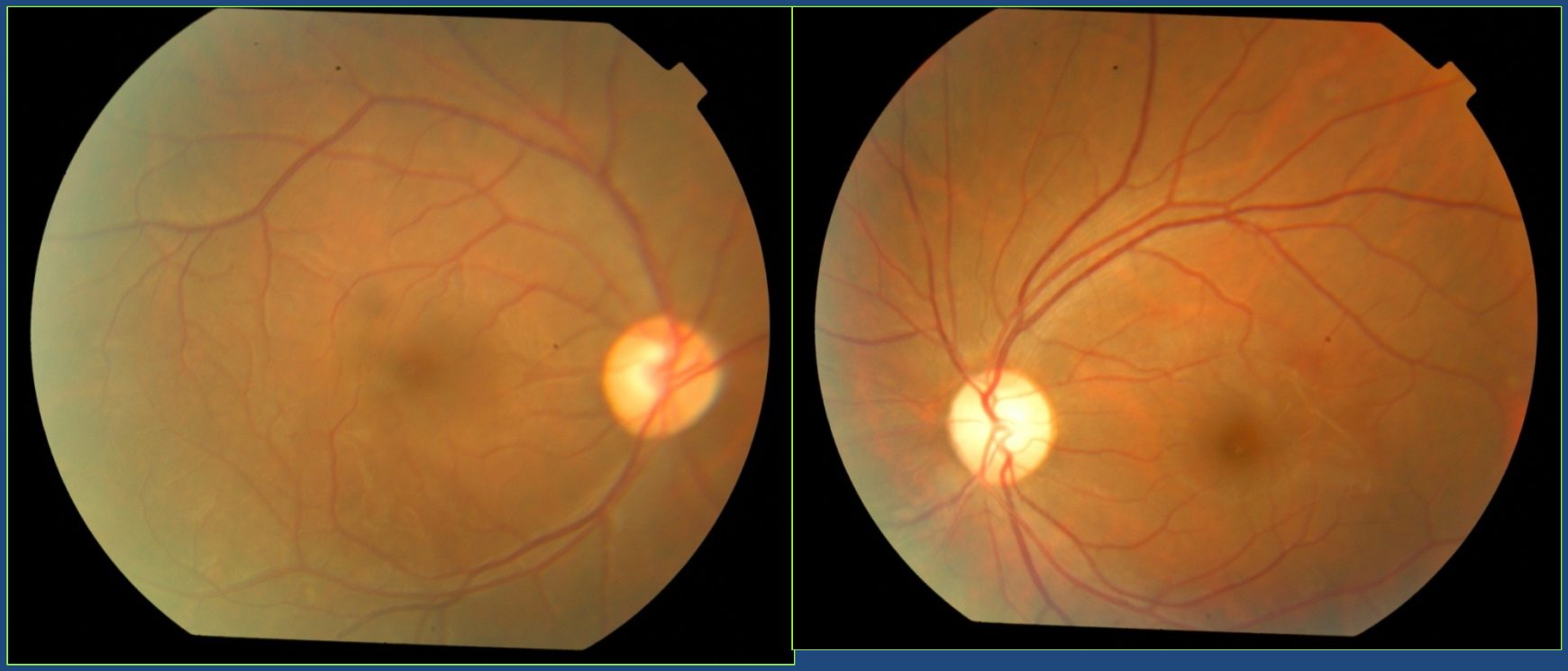


- Serum ACE
- Chest x-ray or gallium scan
- PPD negative, if previously +ve
- LN biopsy
- Periodic systemic exam

- 22 y.o. gentleman
- Fever of unknown origin



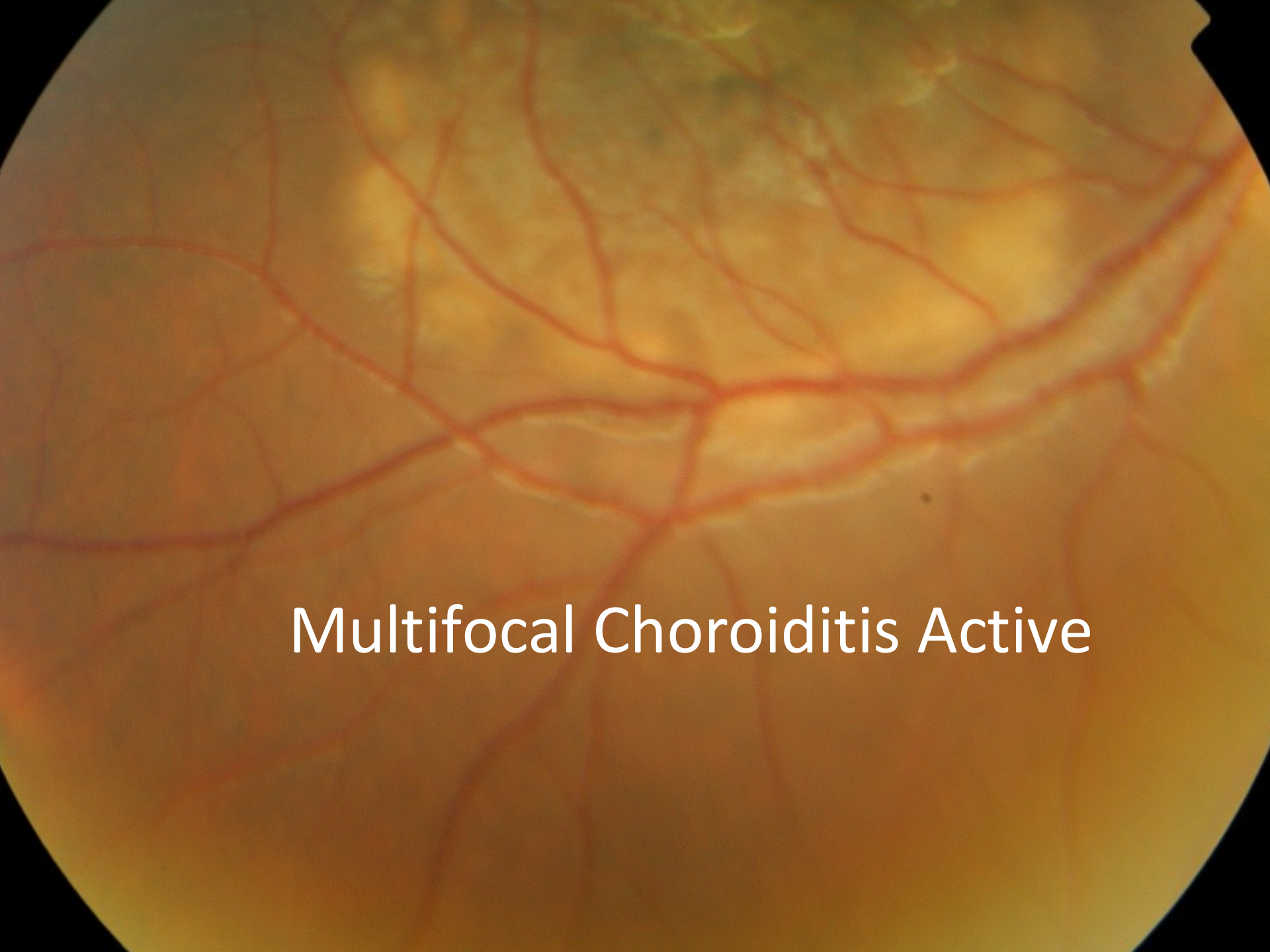
- Placed on ATT
- 4 weeks later



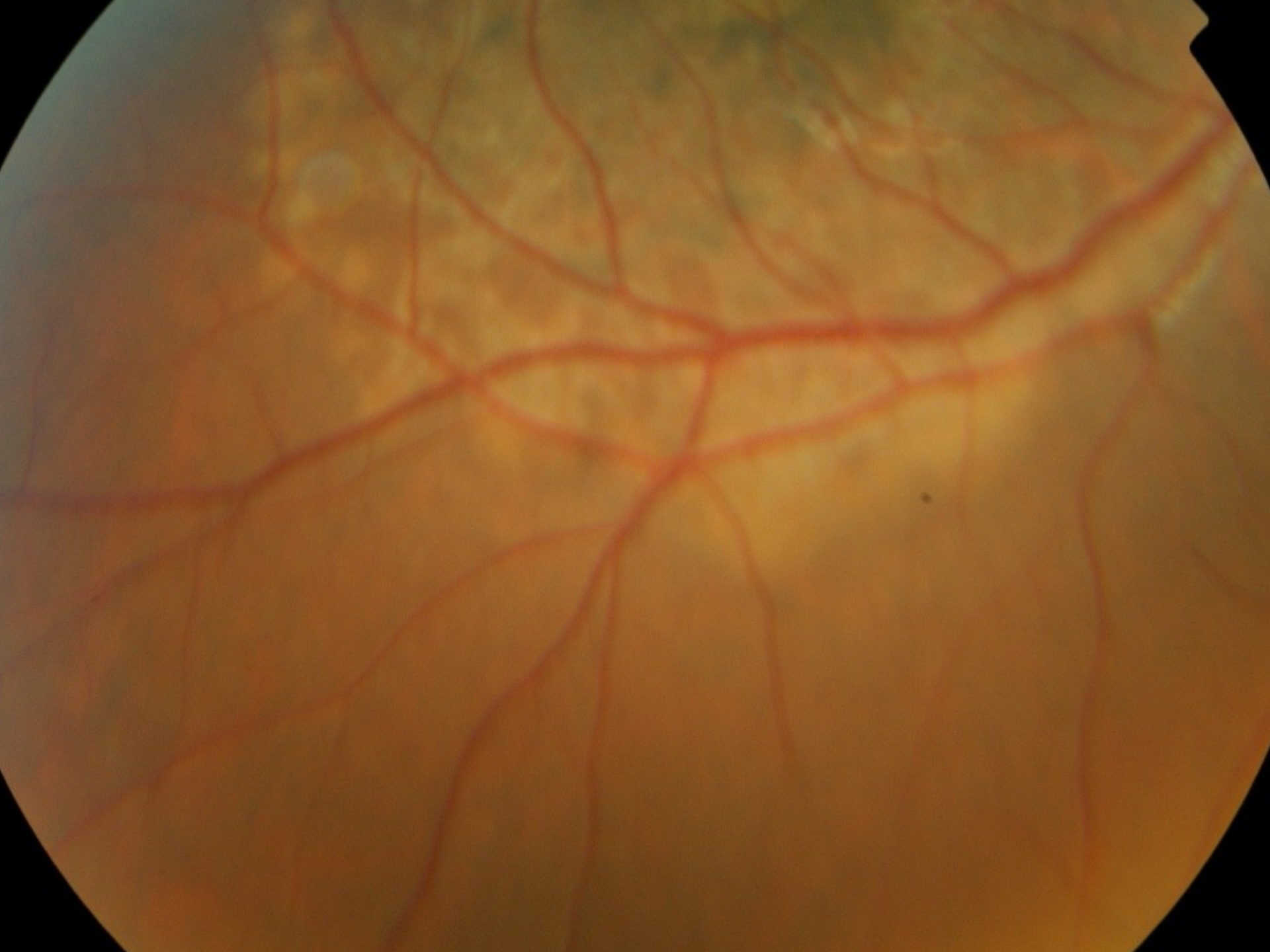
Multifocal Choroiditis Inactive (idiopathic auto-immune)

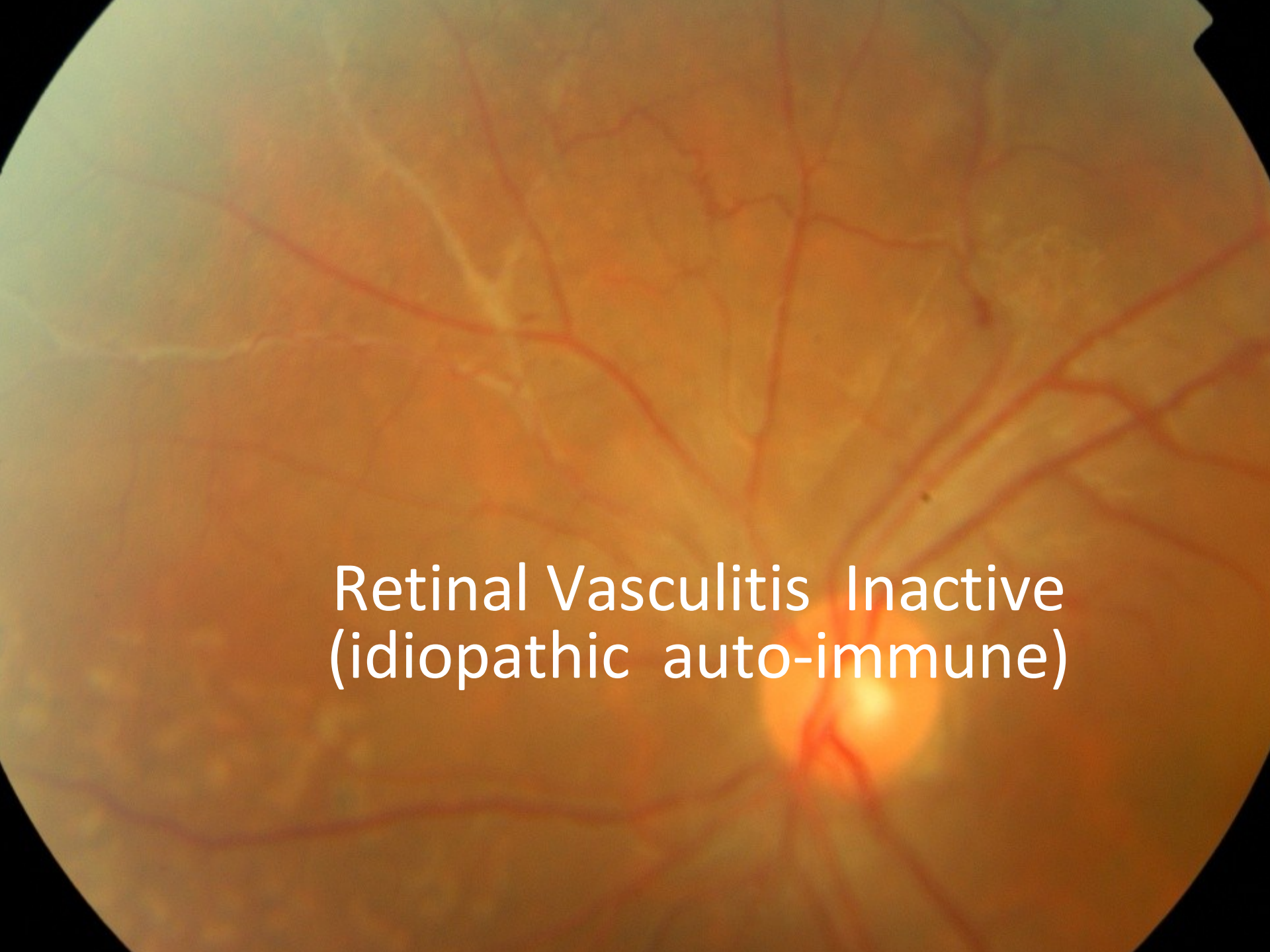
Multifocal Choroiditis Inactive with scarring

Multifocal Choroiditis Active
Oral Steroids

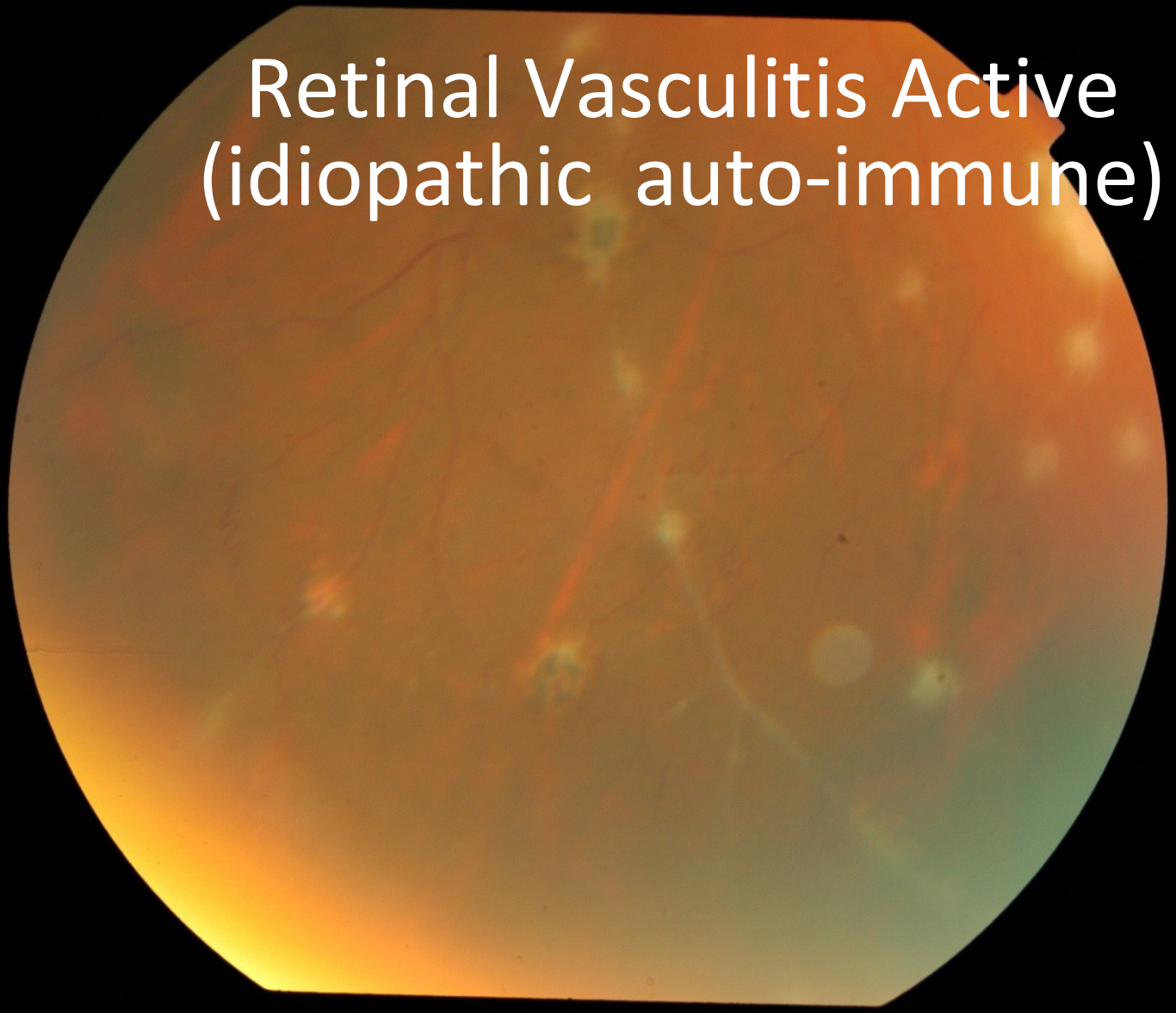

Multifocal Choroiditis Active

Multifocal Choroiditis Healed

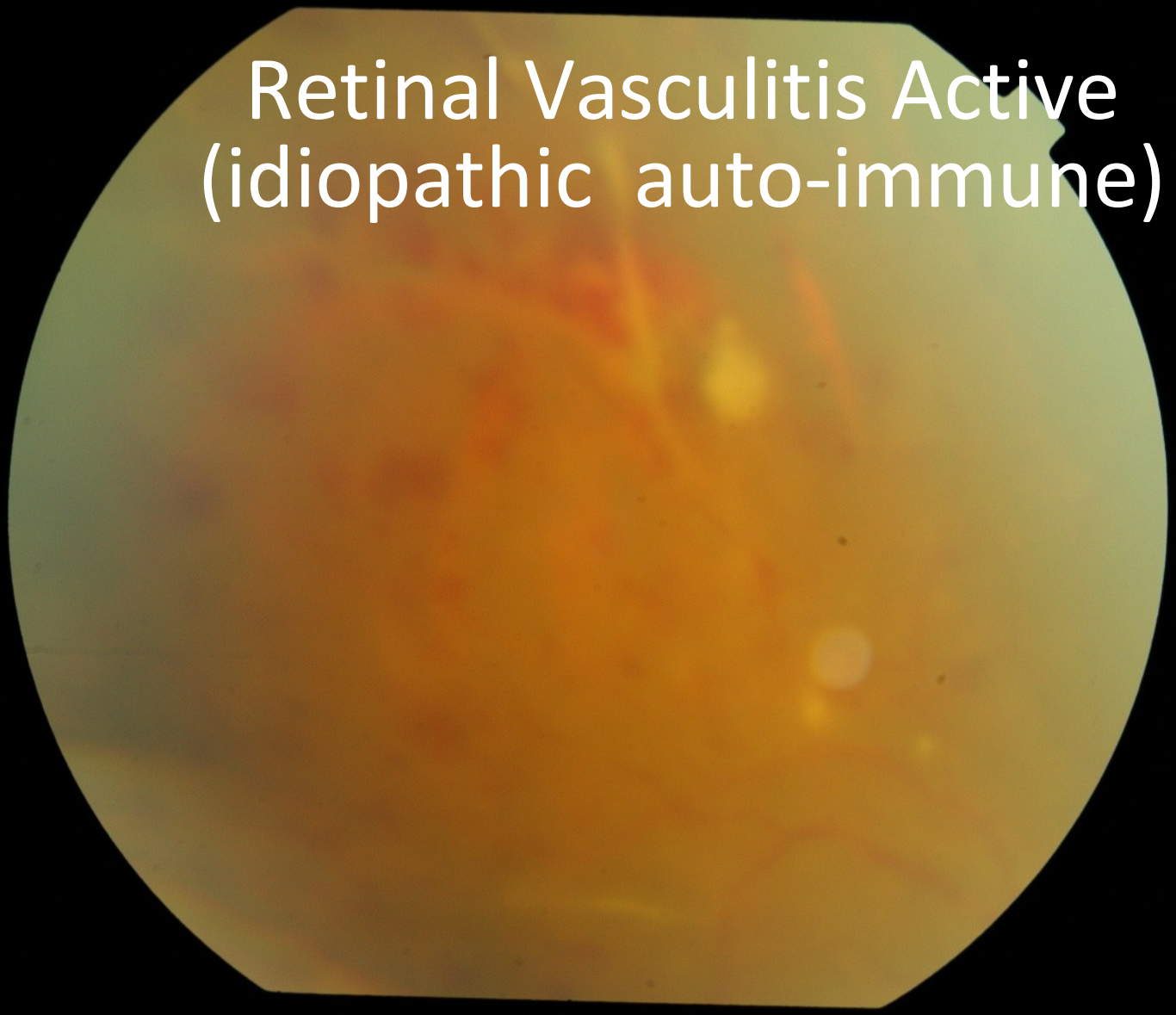



Retinal Vasculitis Inactive
(idiopathic auto-immune)

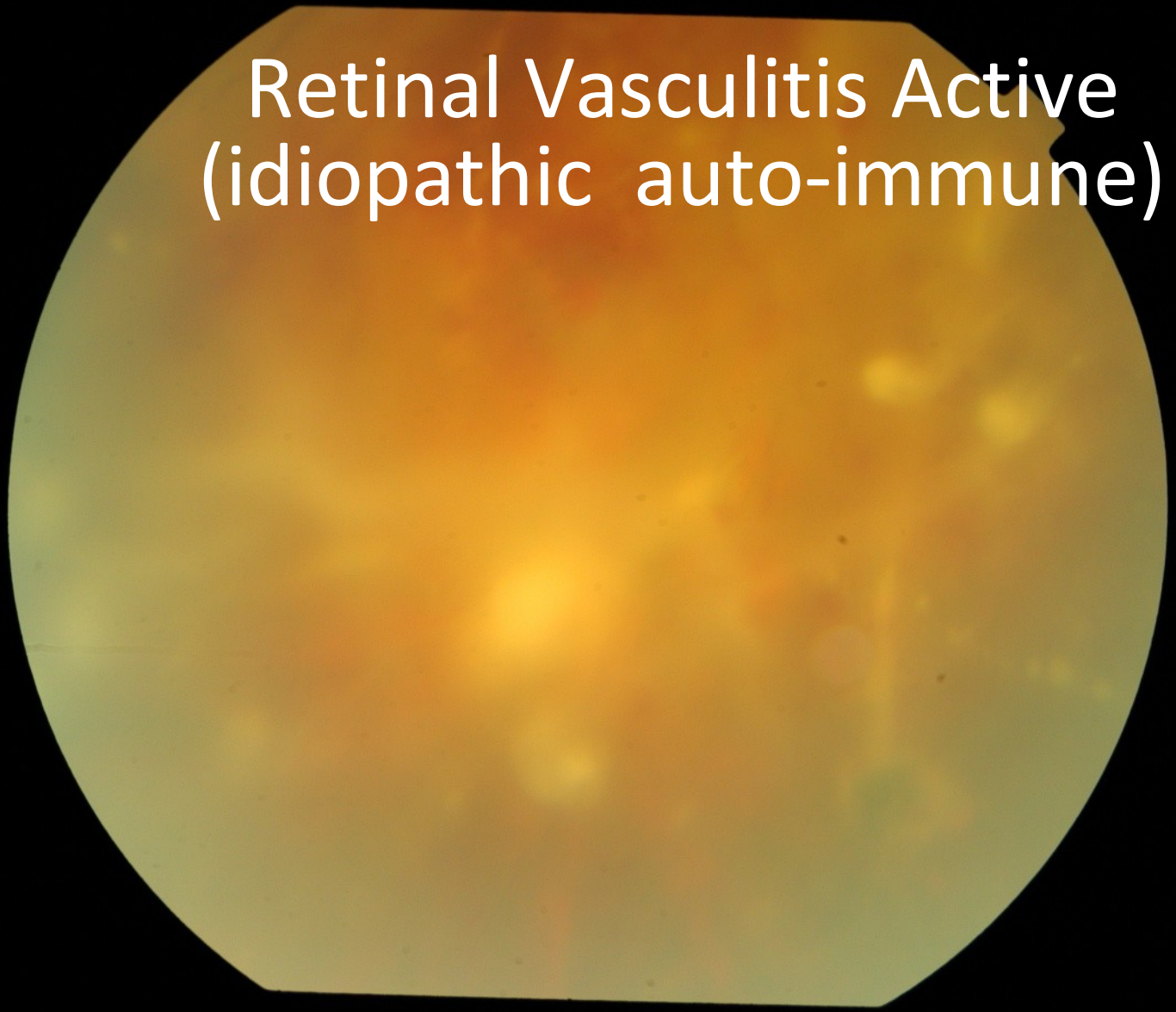
Retinal Vasculitis Active (idiopathic auto-immune)



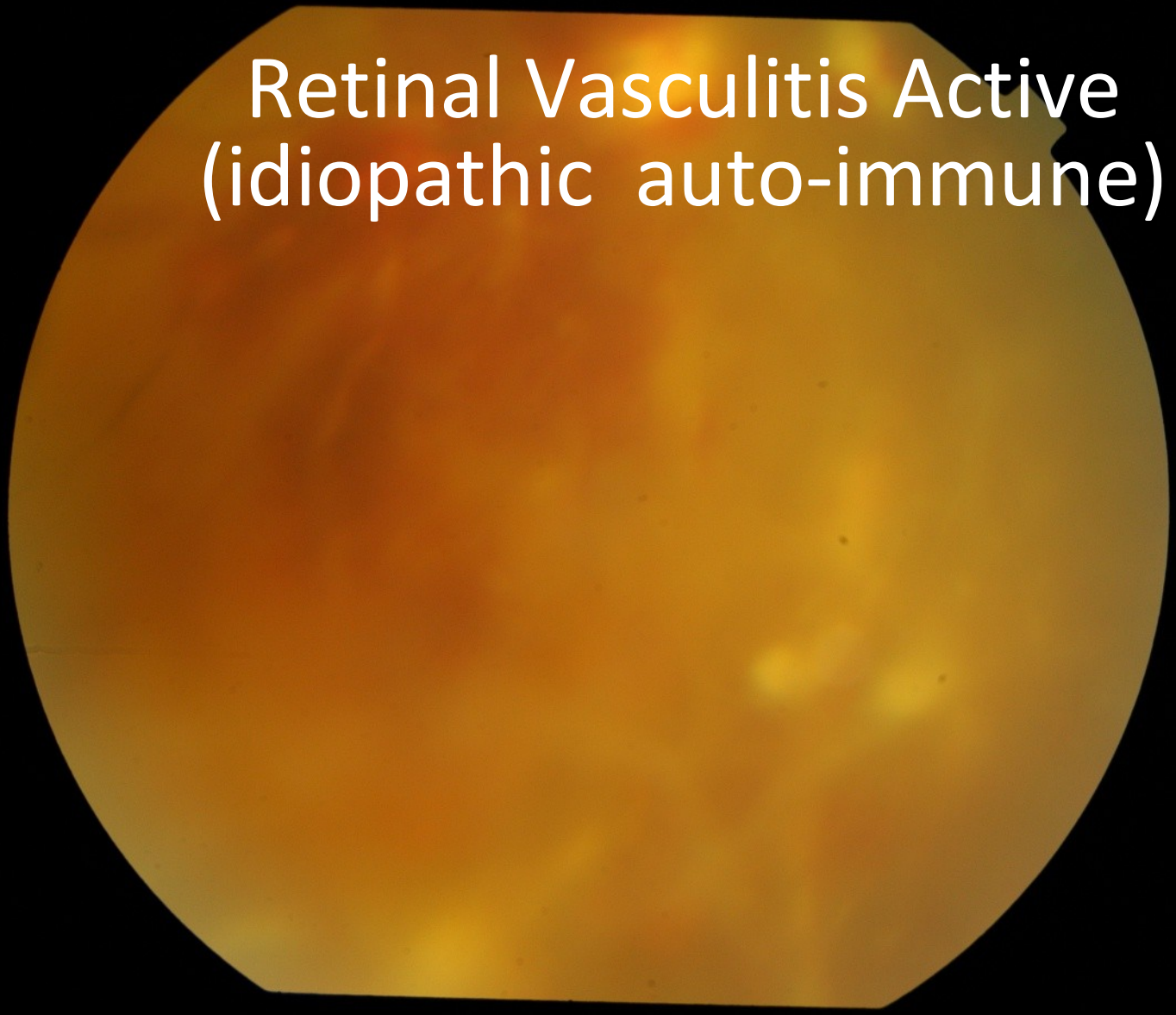
Retinal Vasculitis Active (idiopathic auto-immune)

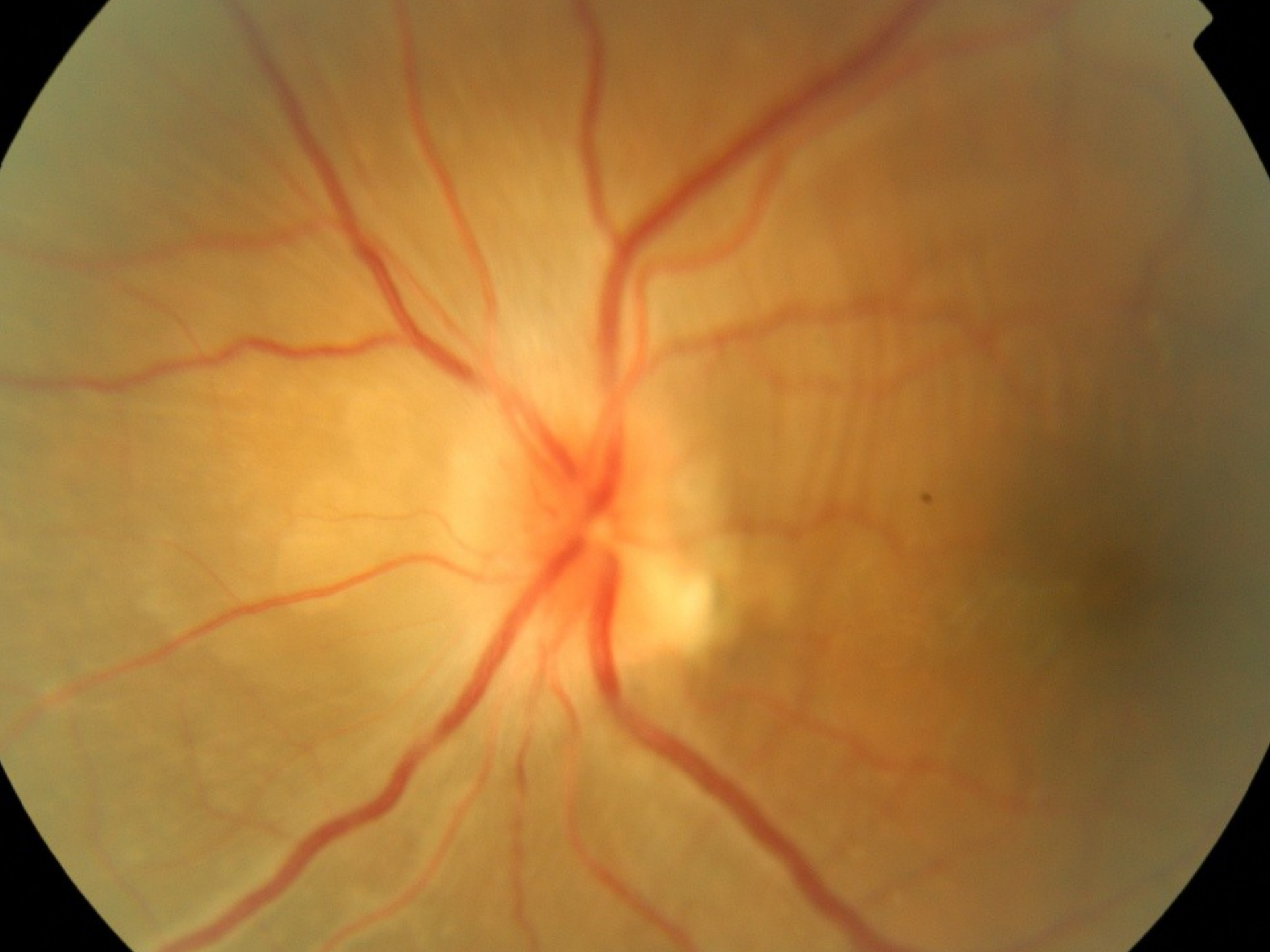


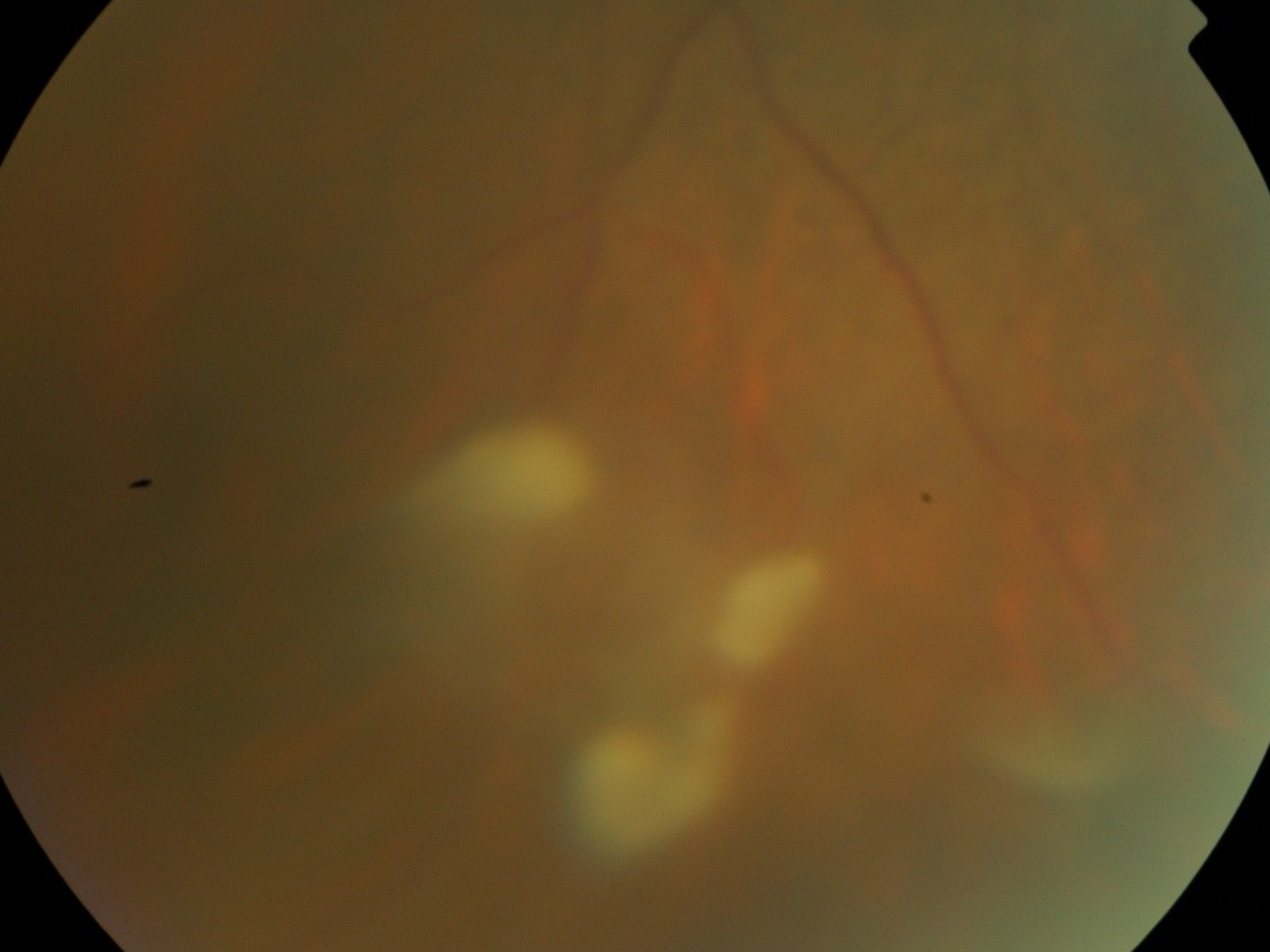
Retinal Vasculitis Active (idiopathic auto-immune)

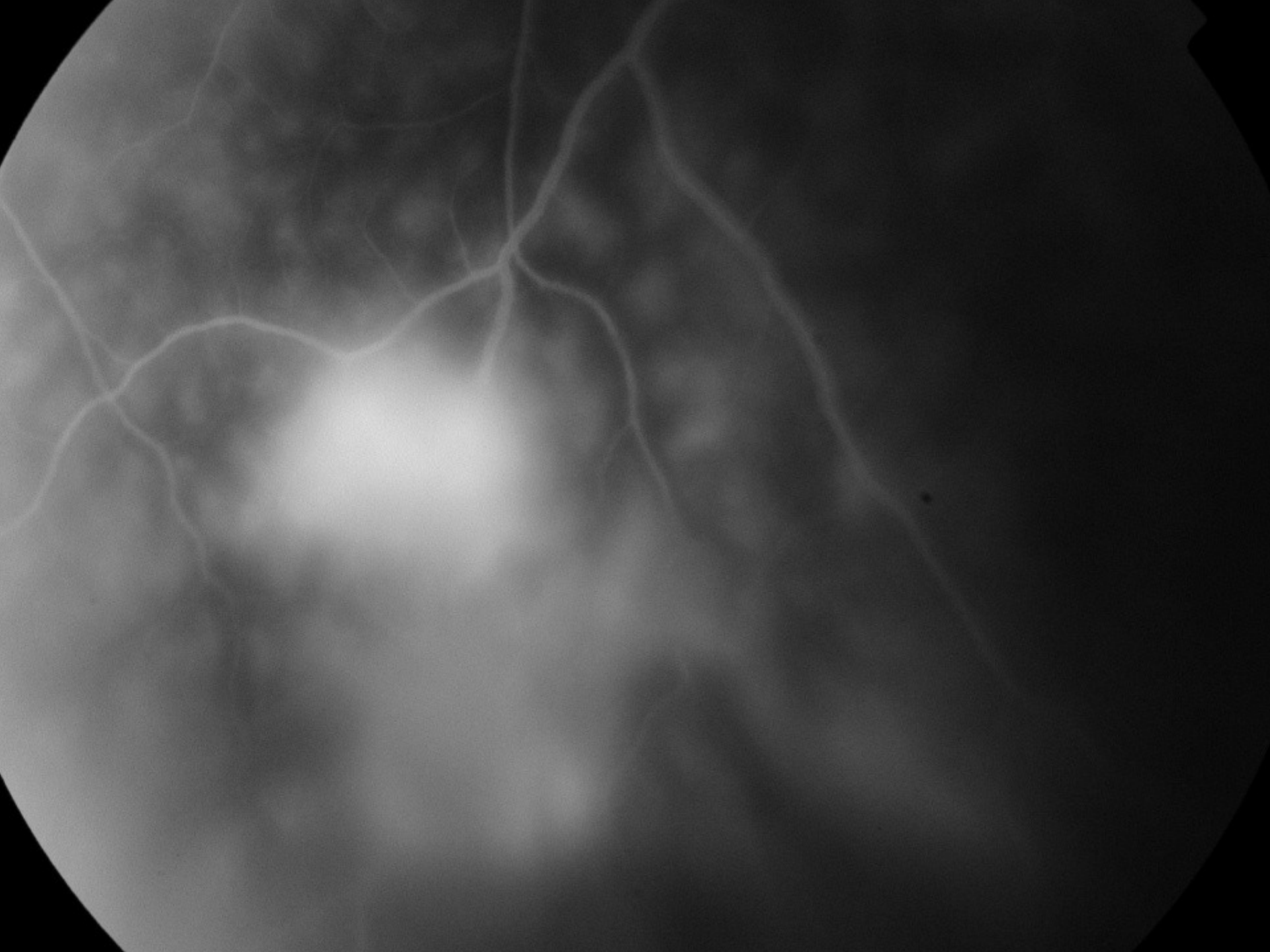


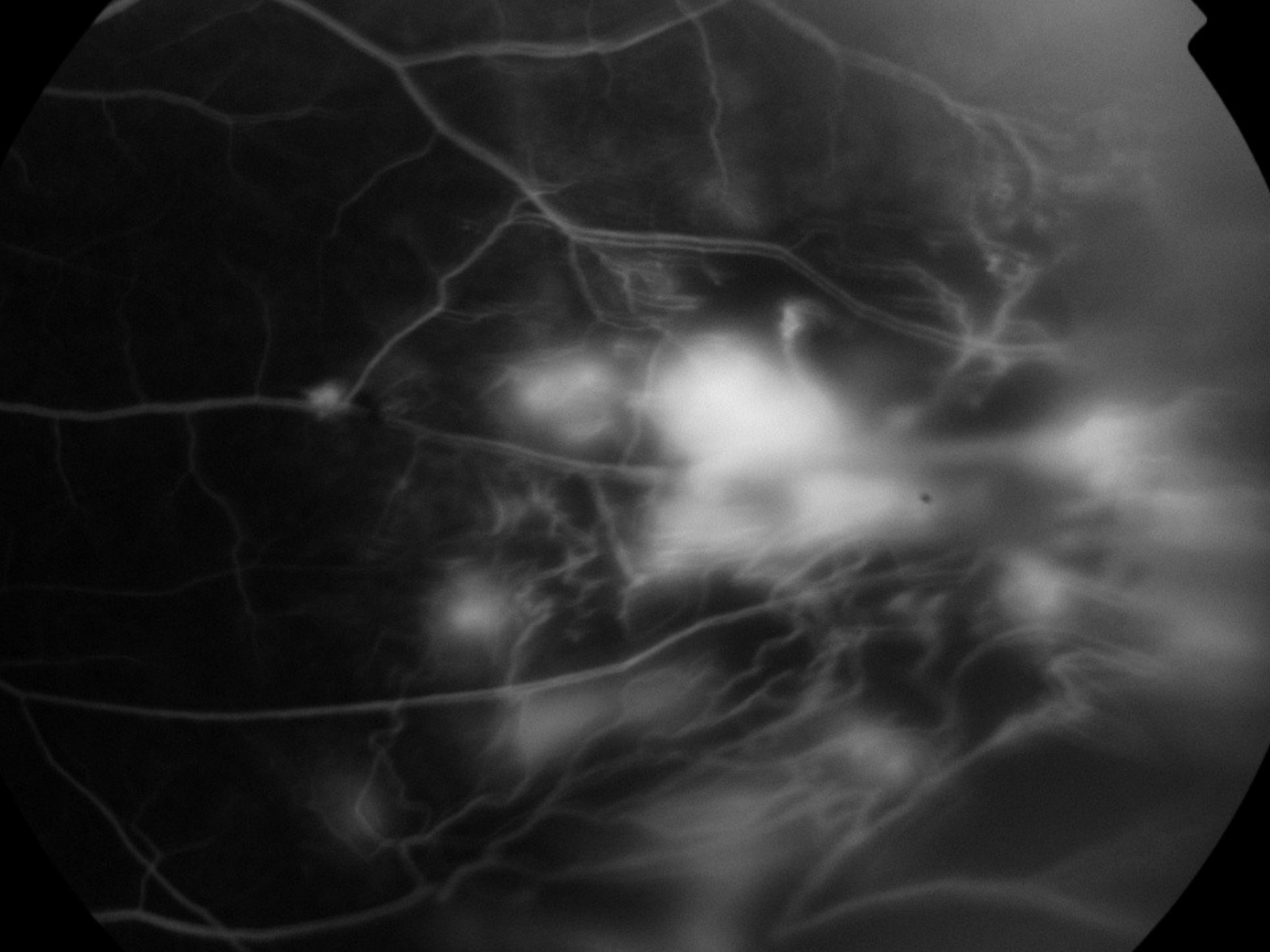
Retinal Vasculitis Active (idiopathic auto-immune)

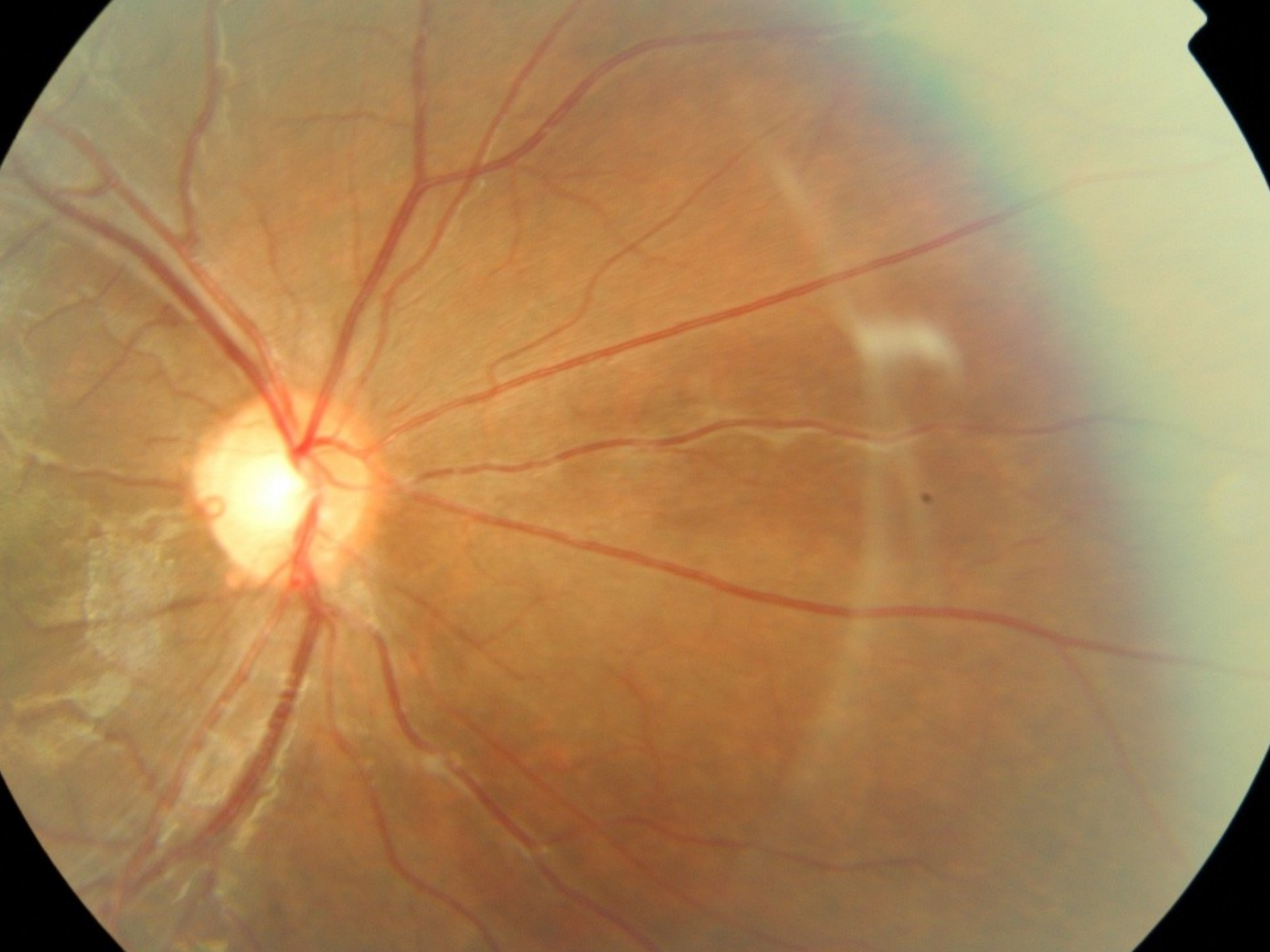


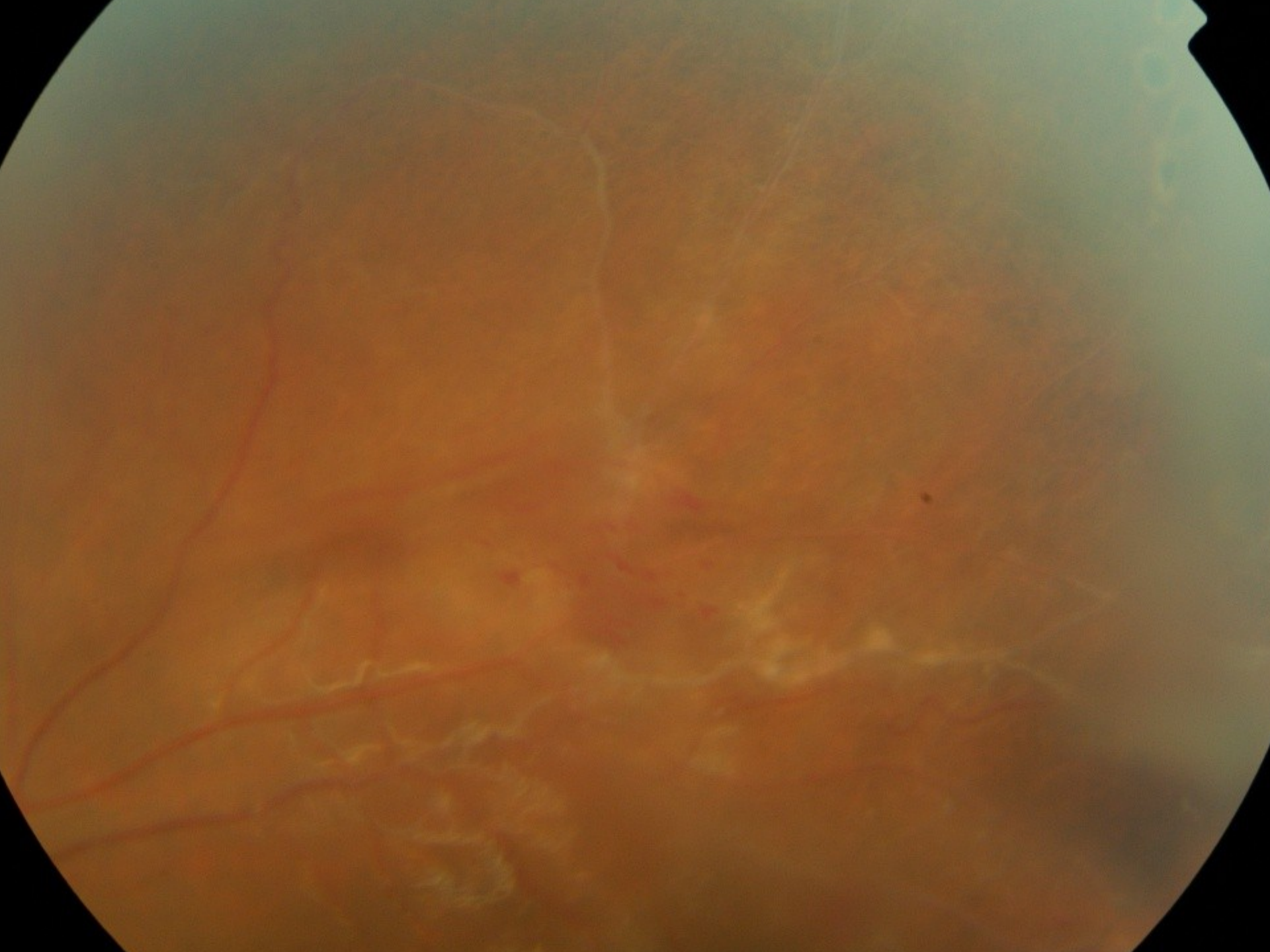


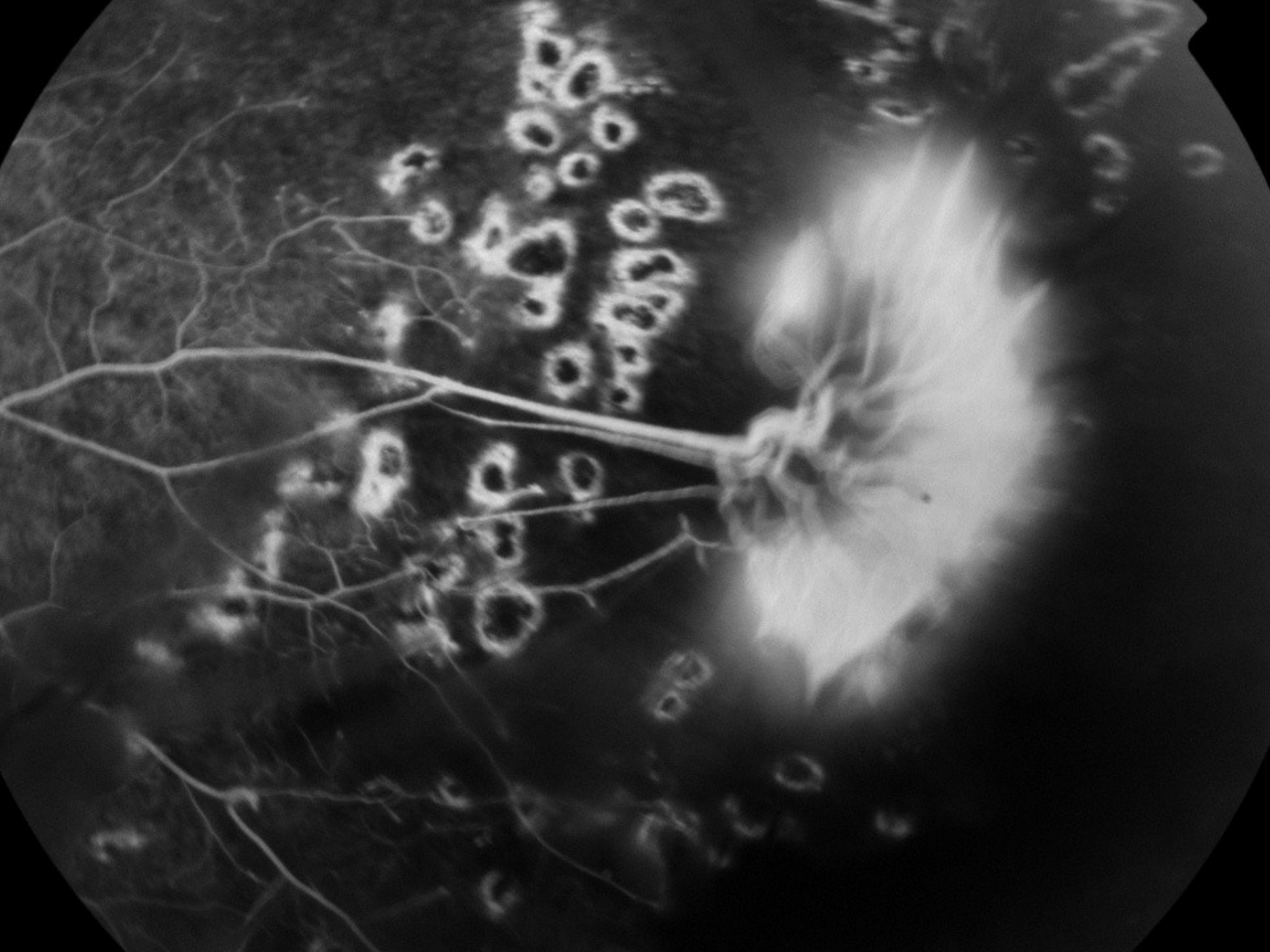


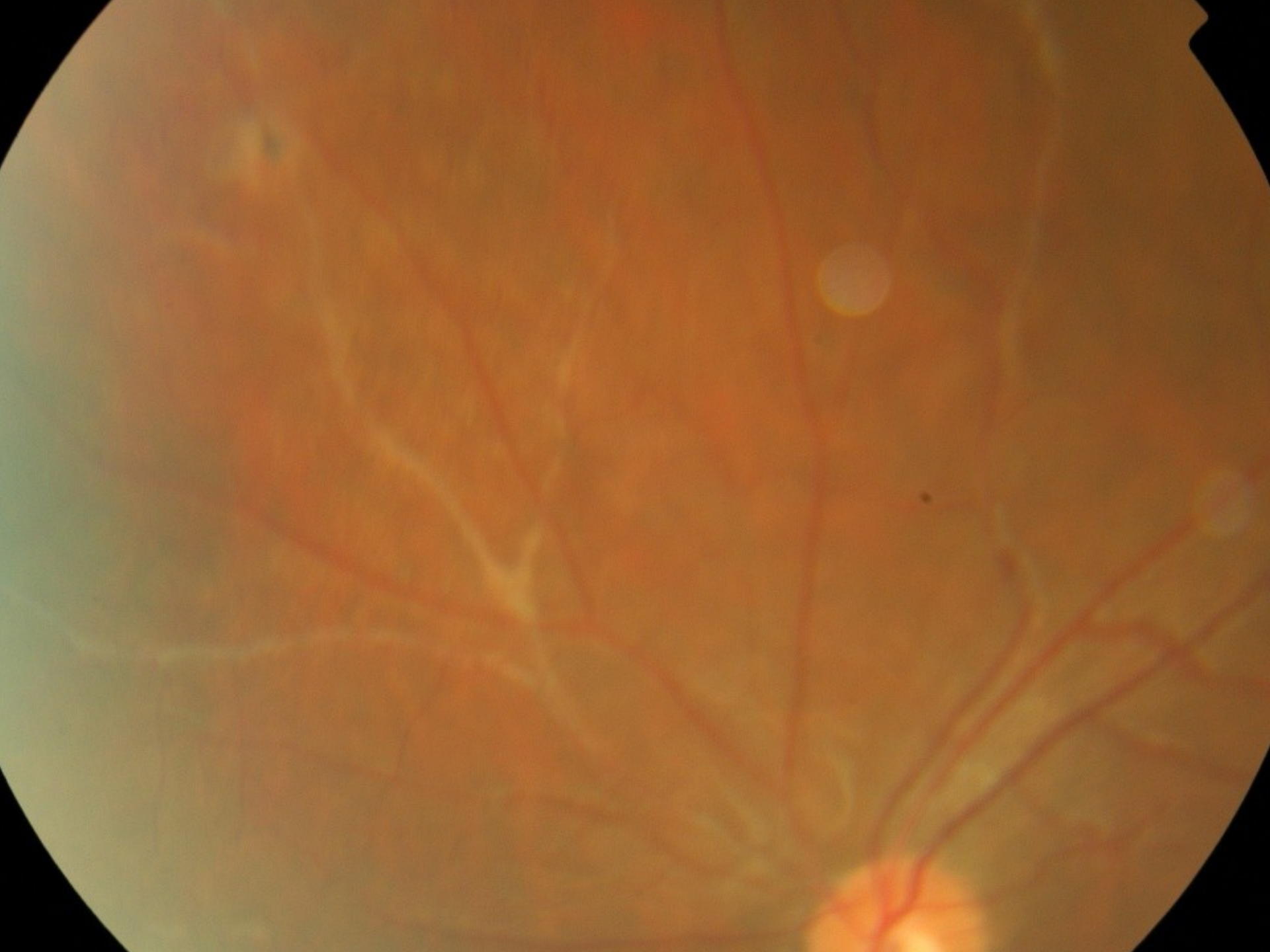


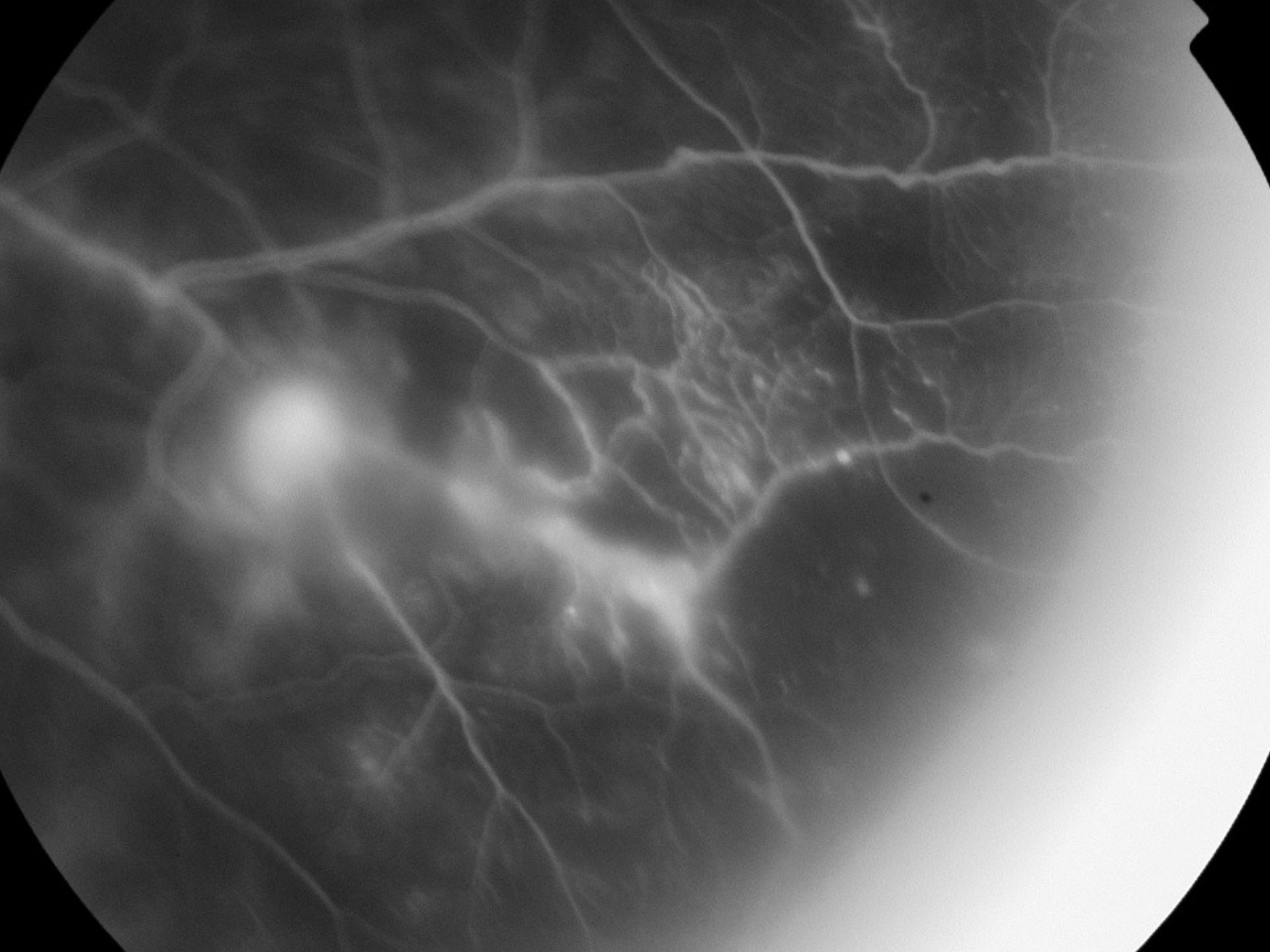


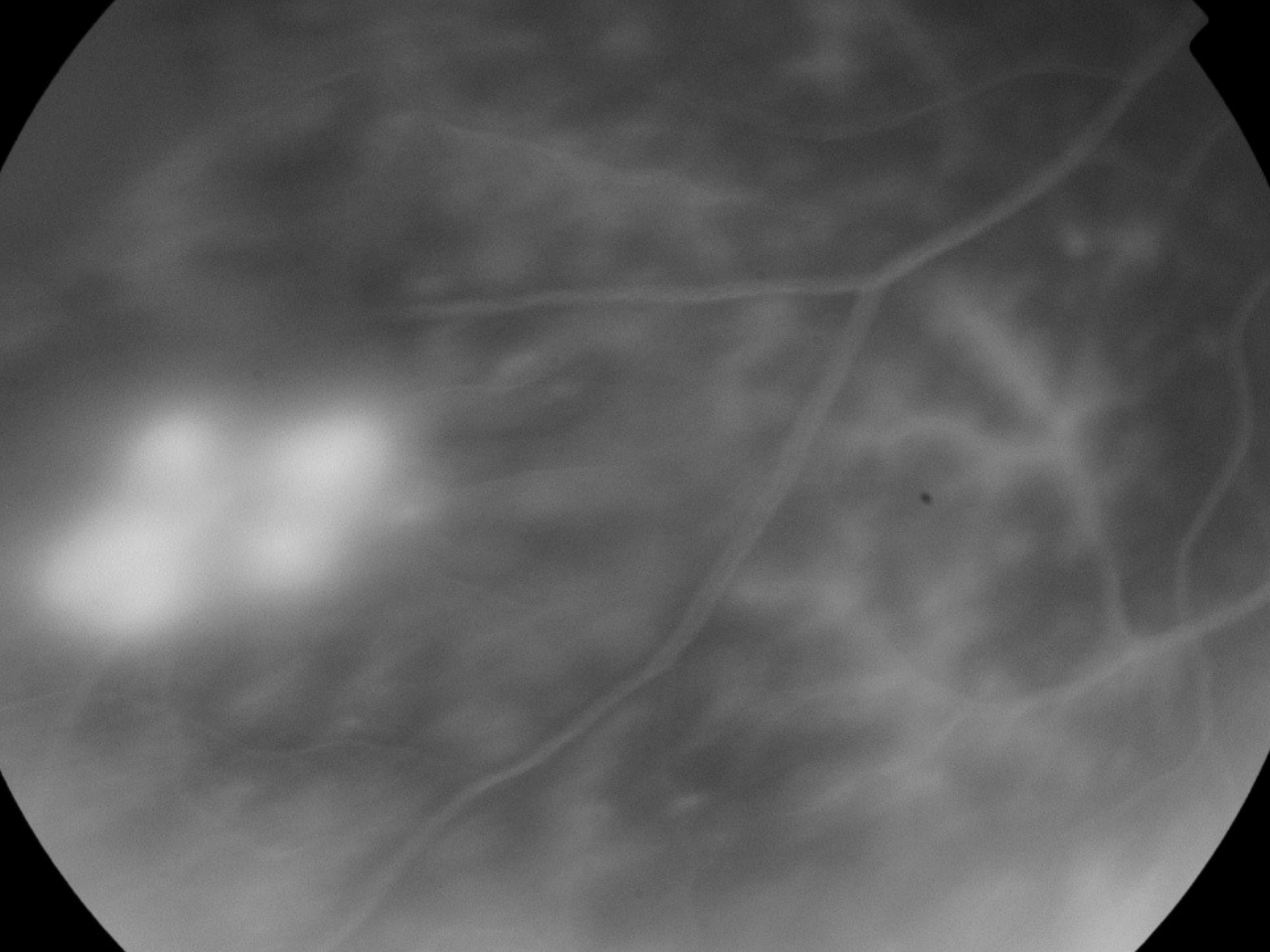




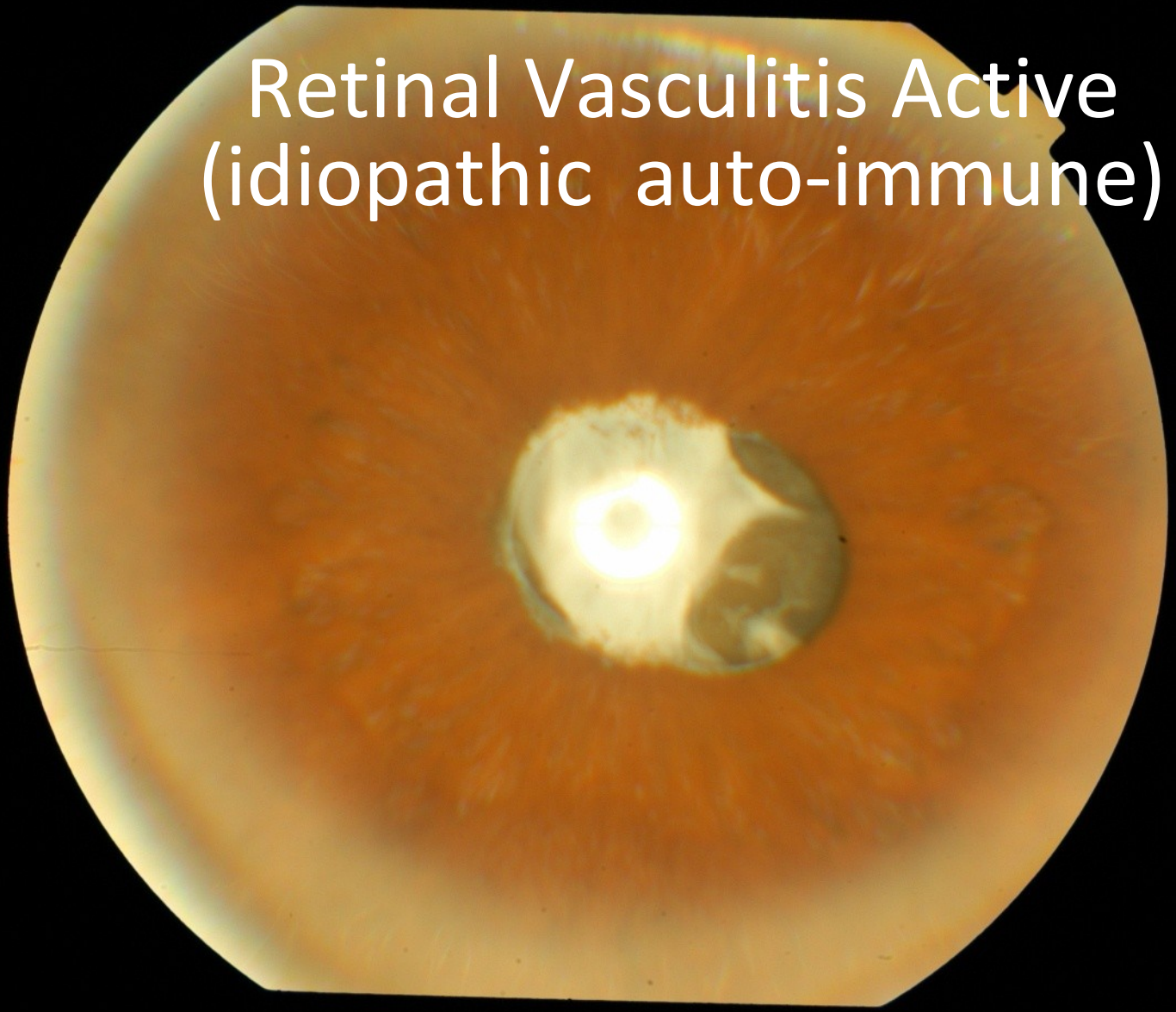




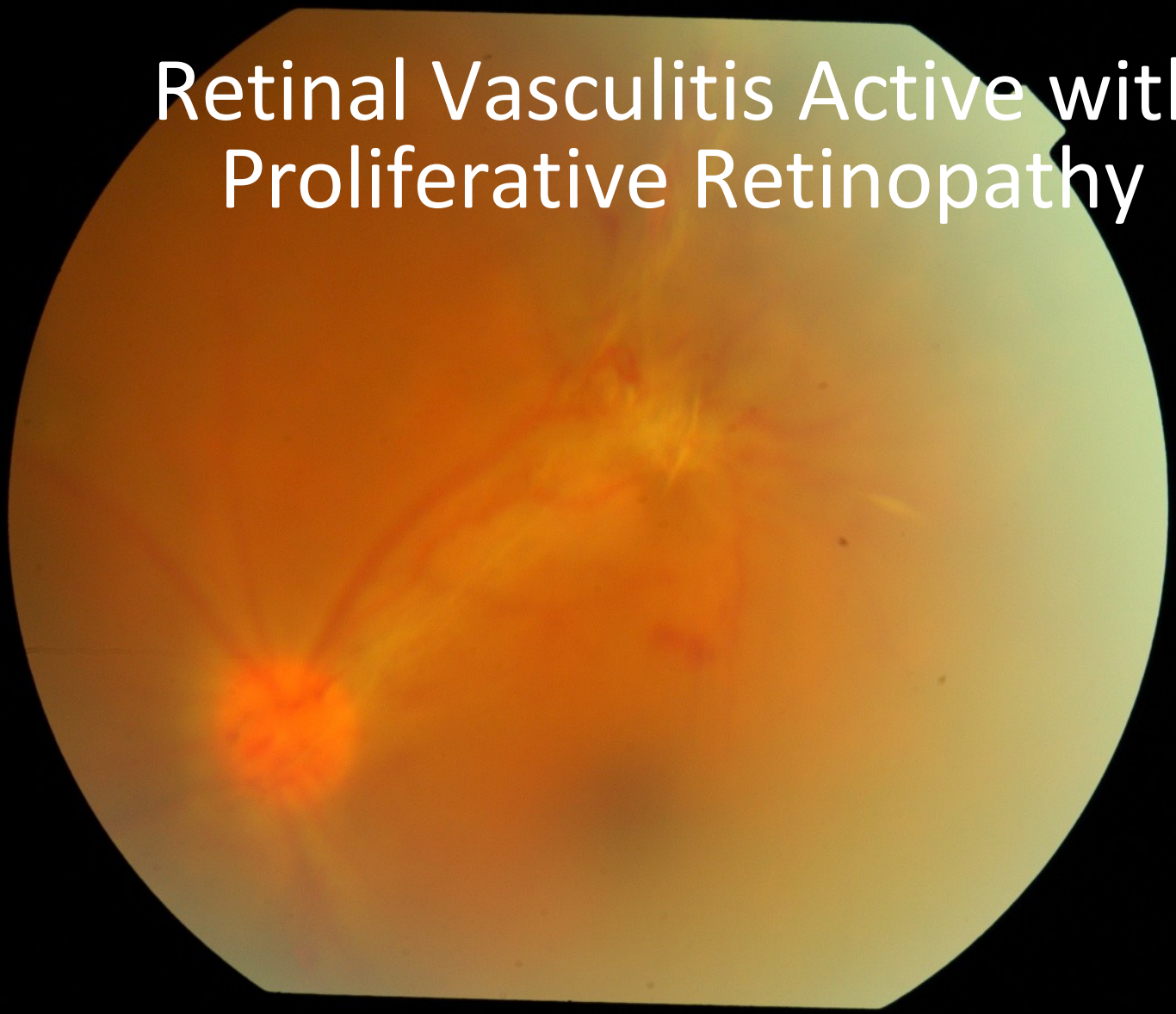


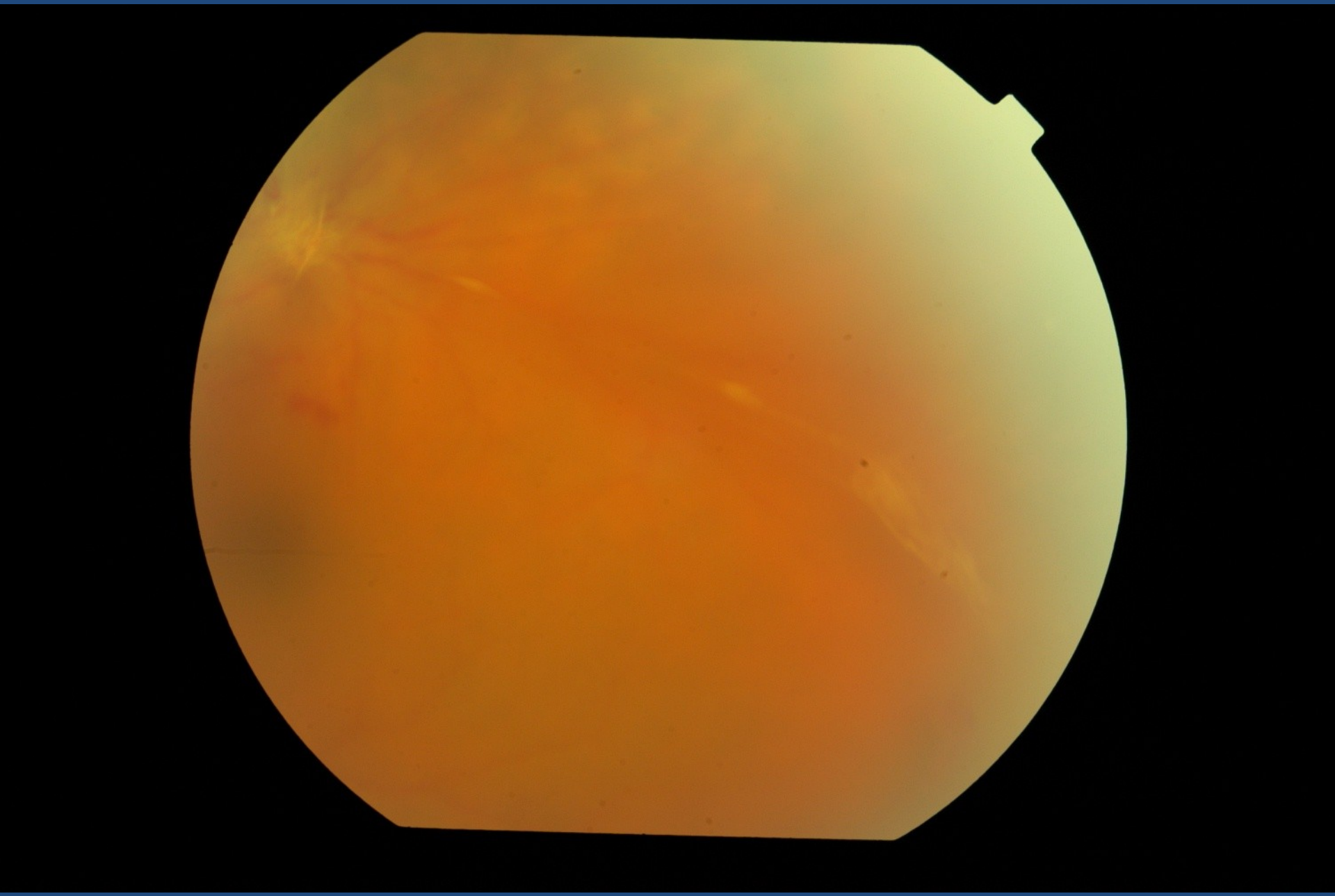


Retinal Vasculitis Active (idiopathic auto-immune)

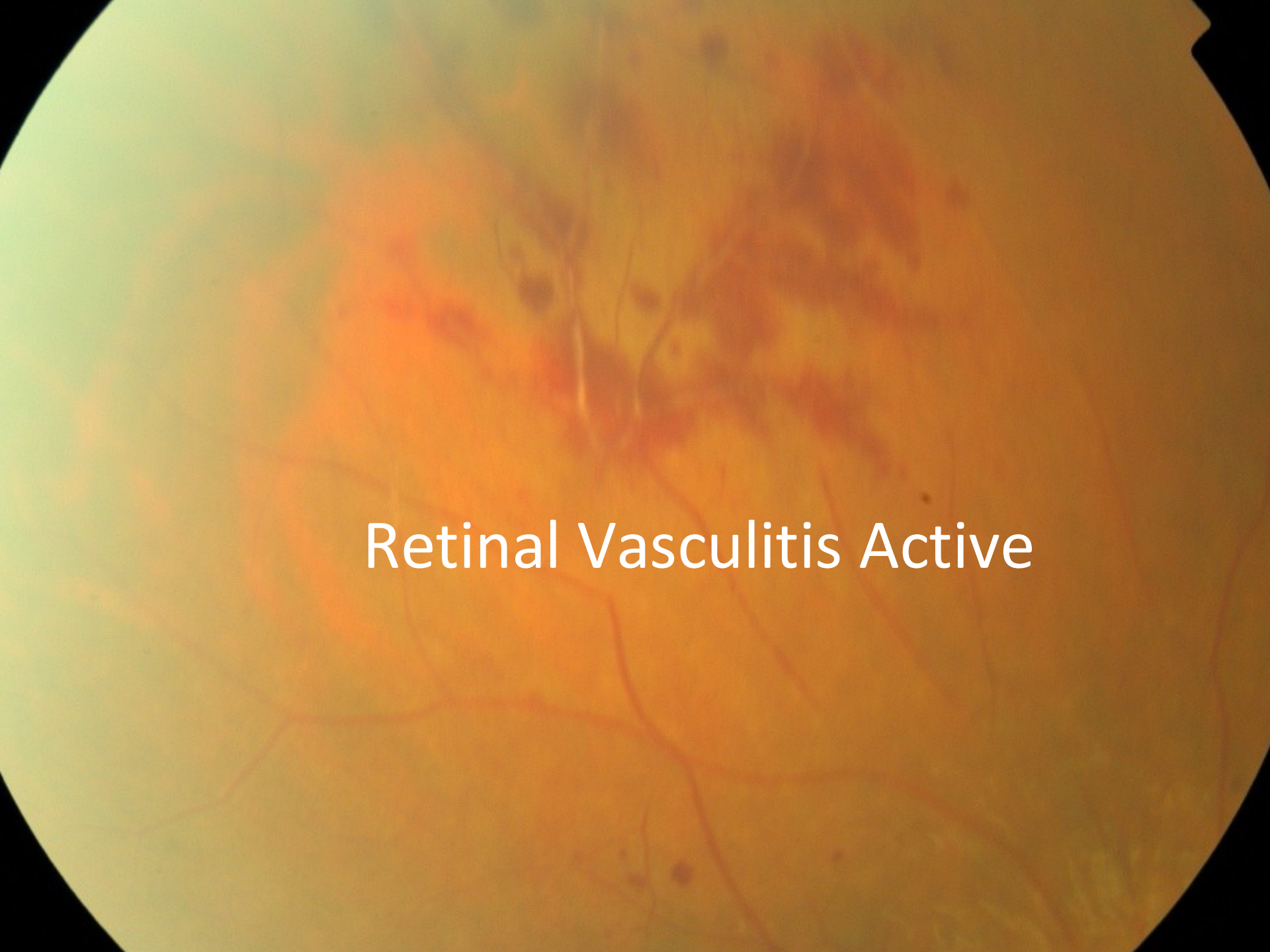


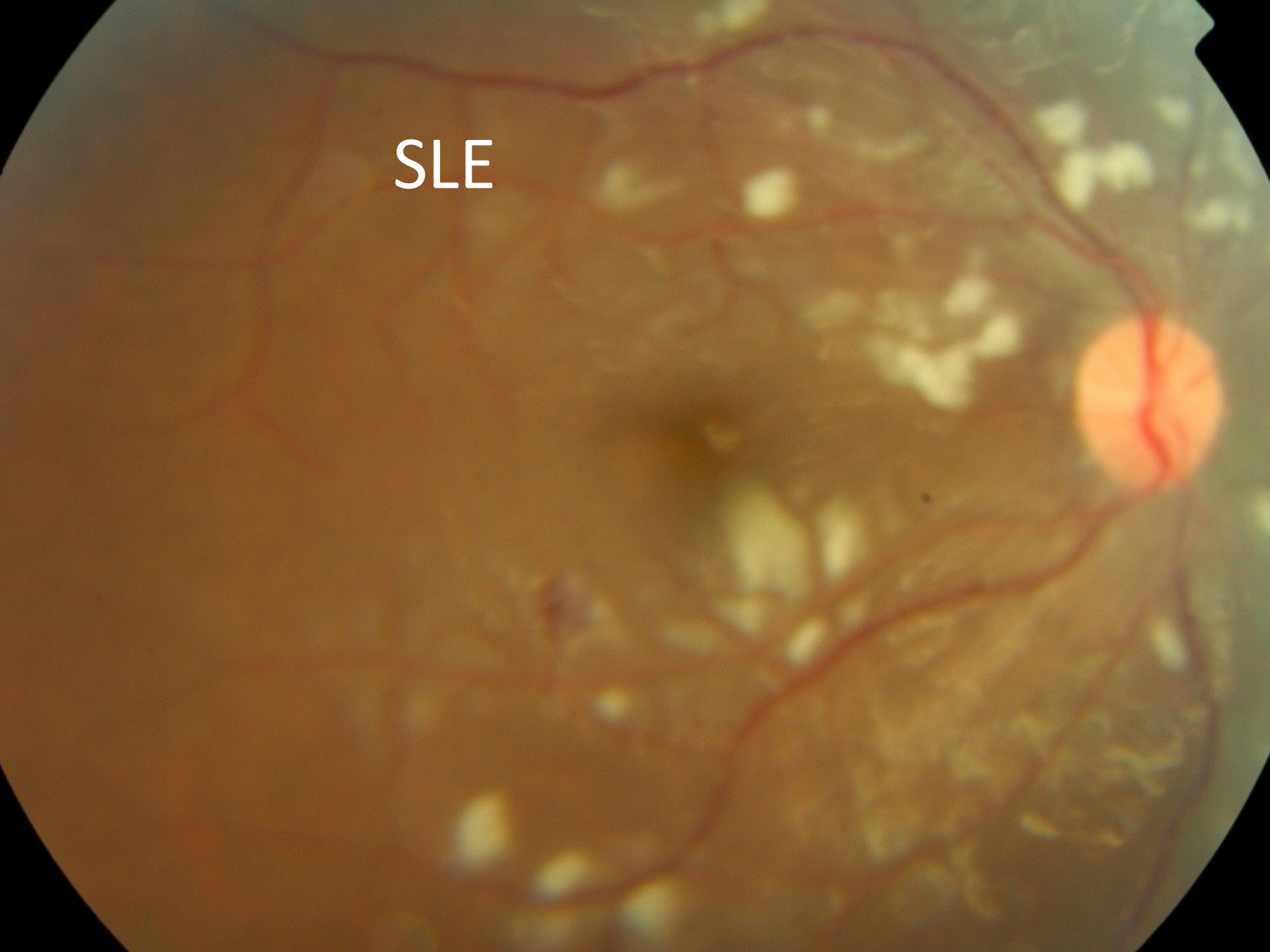
Retinal Vasculitis Active with Proliferative Retinopathy

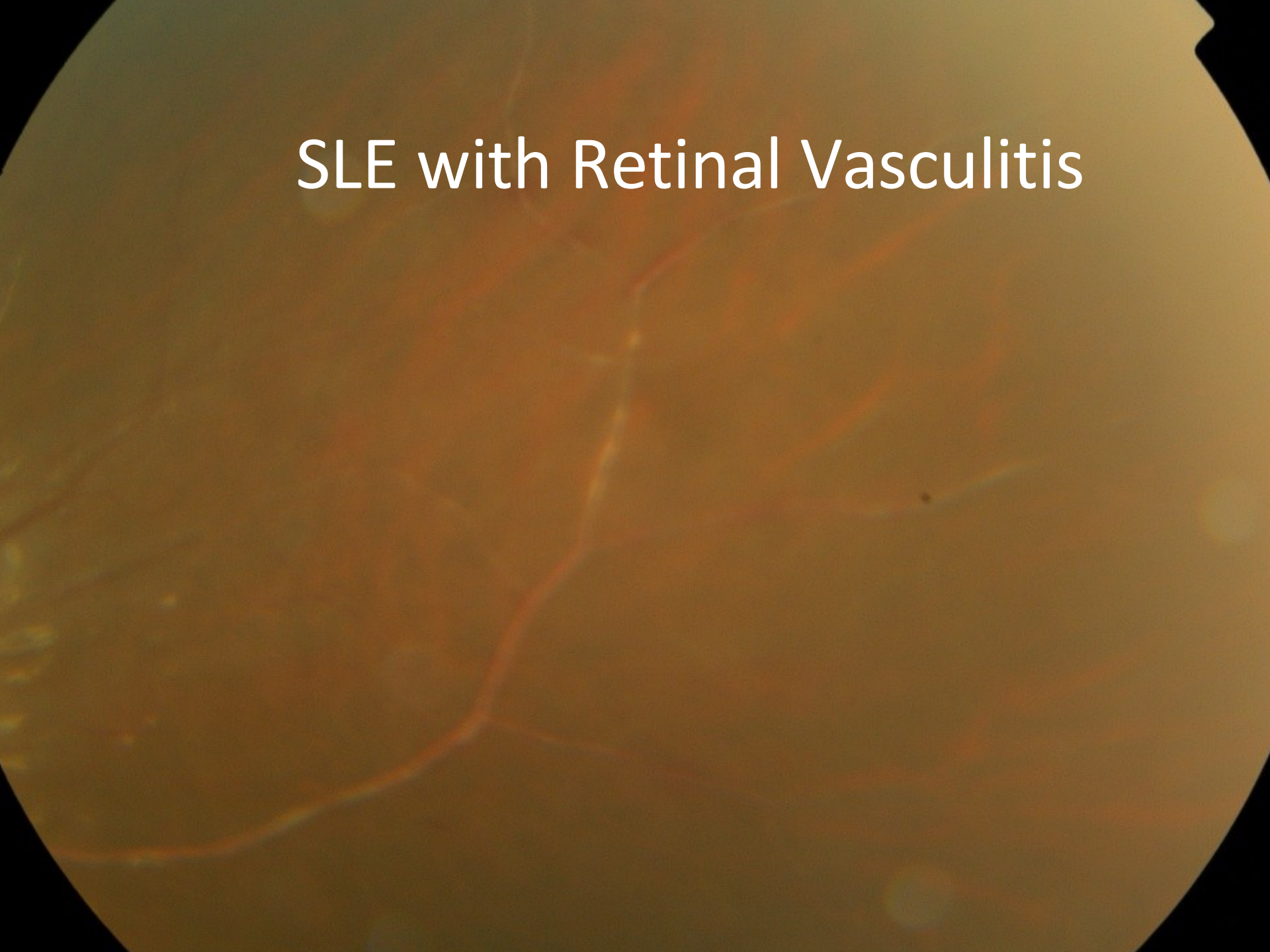


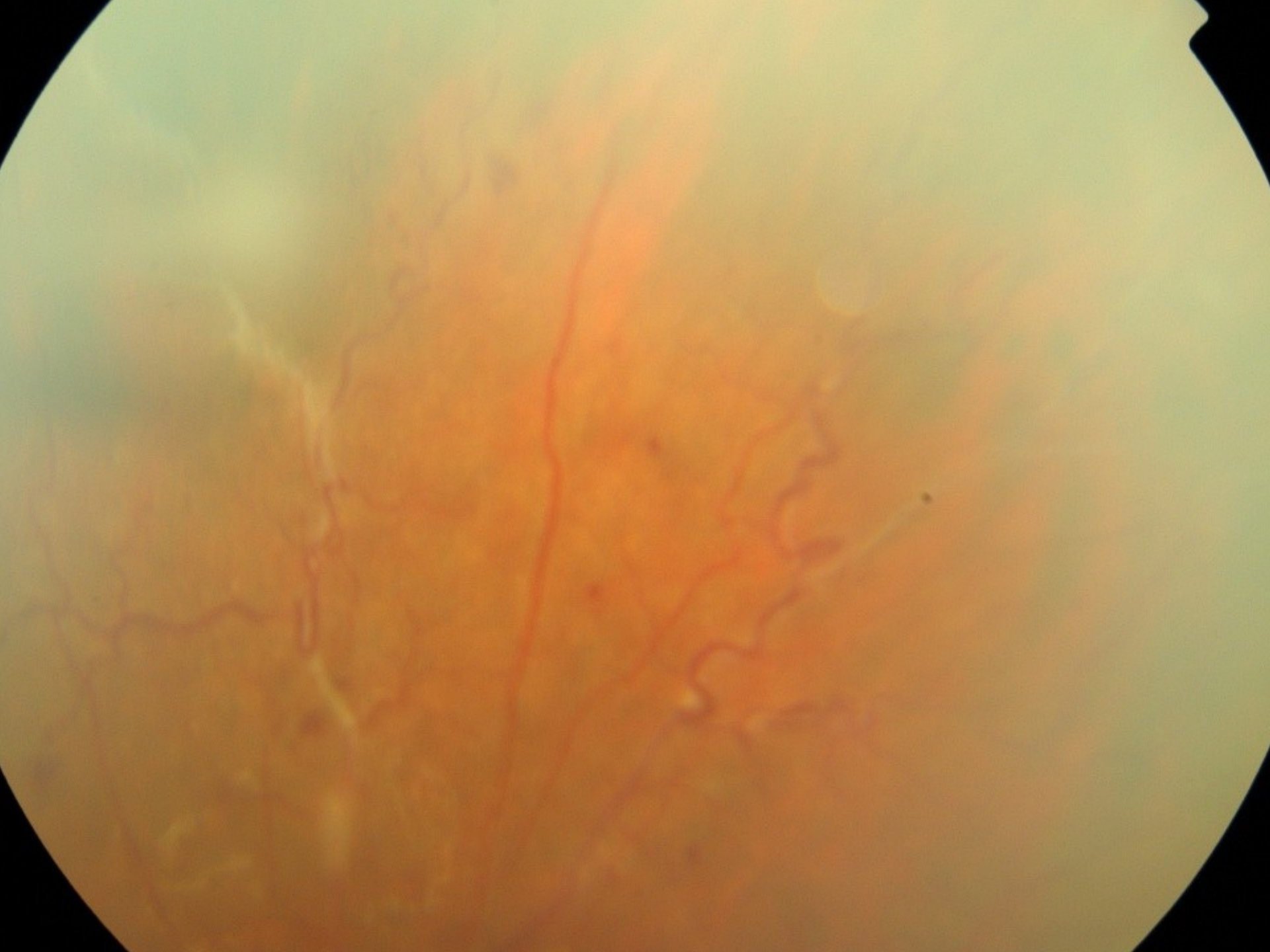


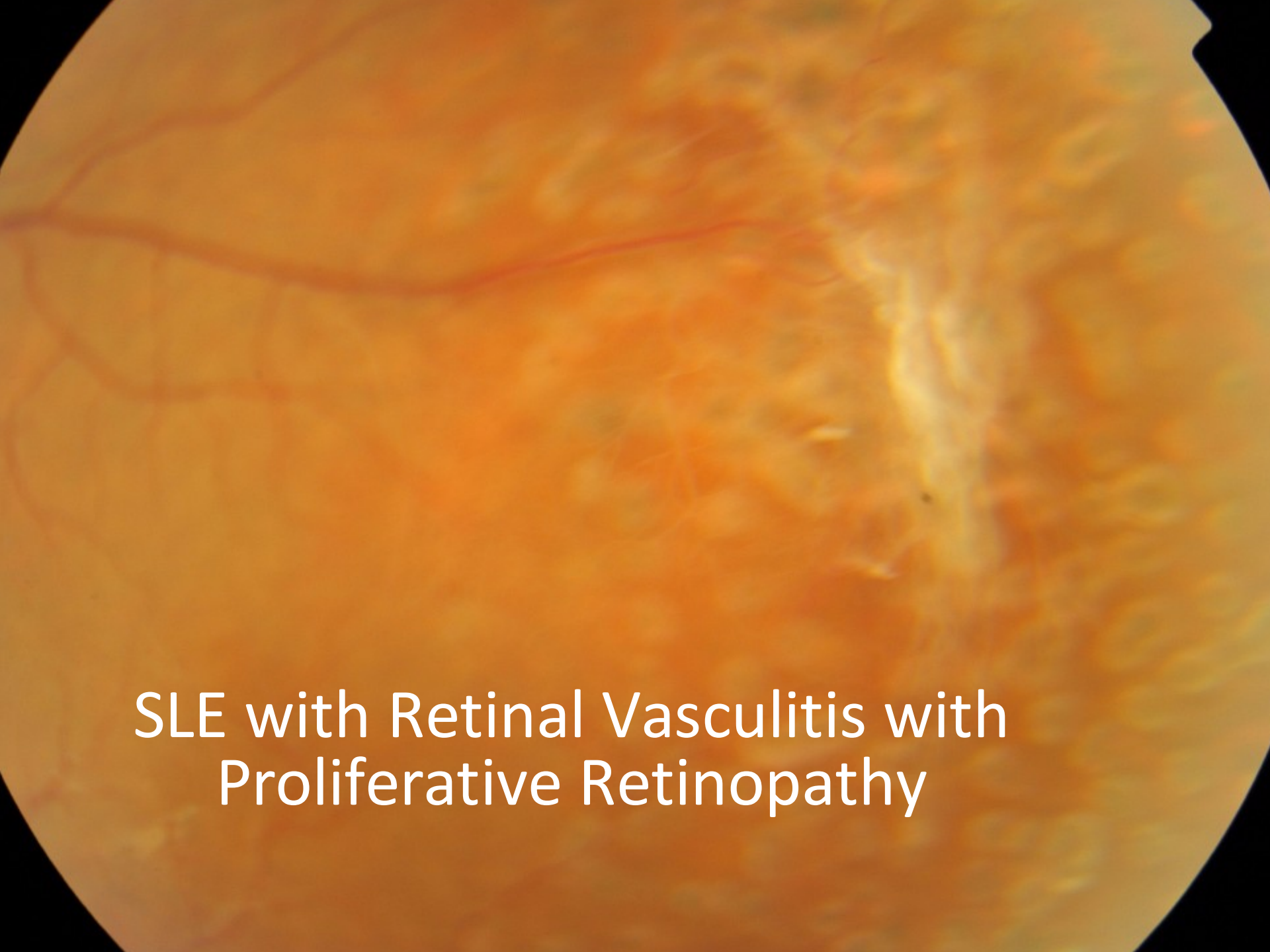

SLE


Retinal Vasculitis Active


SLE


SLE with Retinal Vasculitis



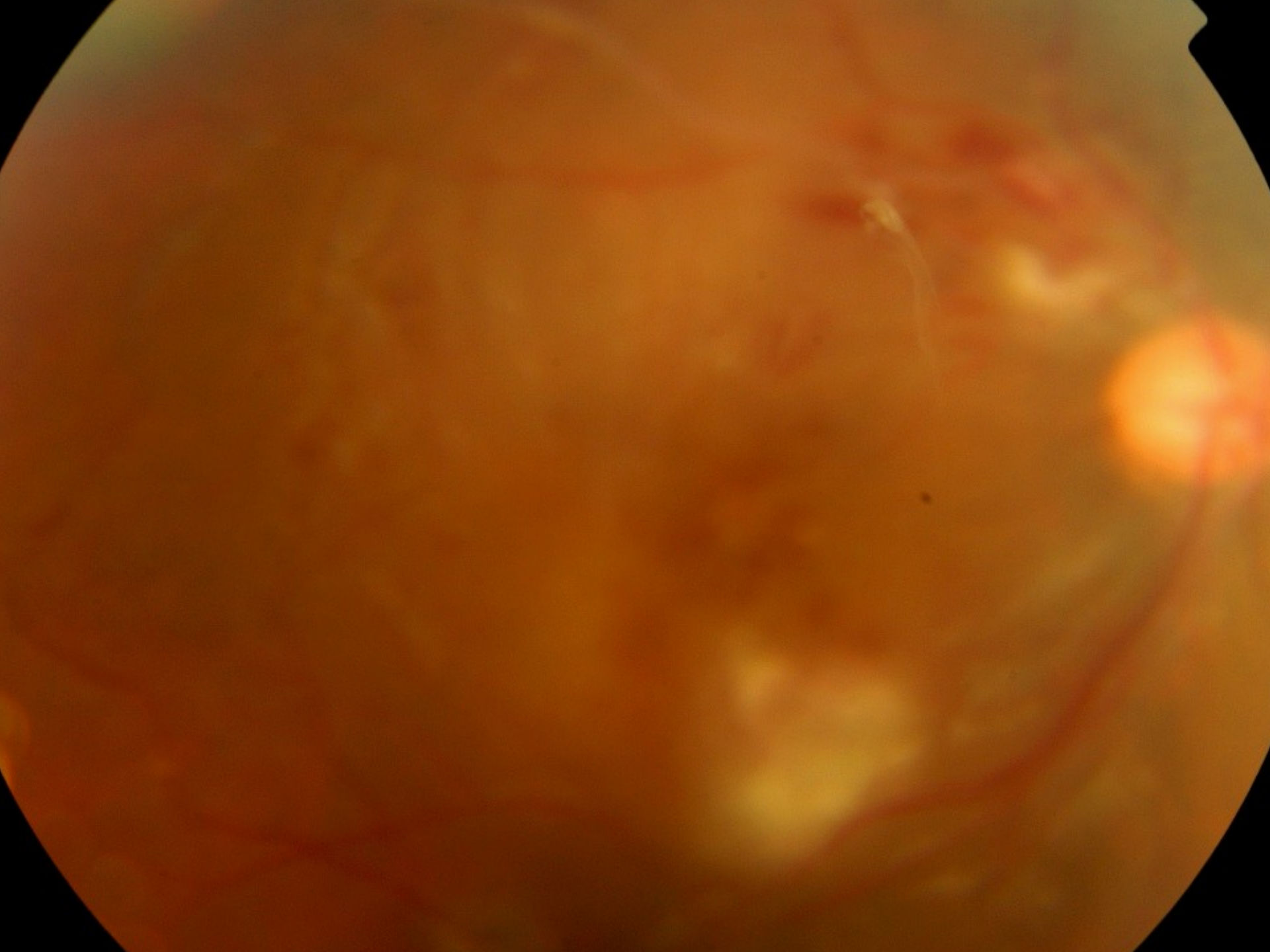

SLE with Retinal Vasculitis with
Proliferative Retinopathy

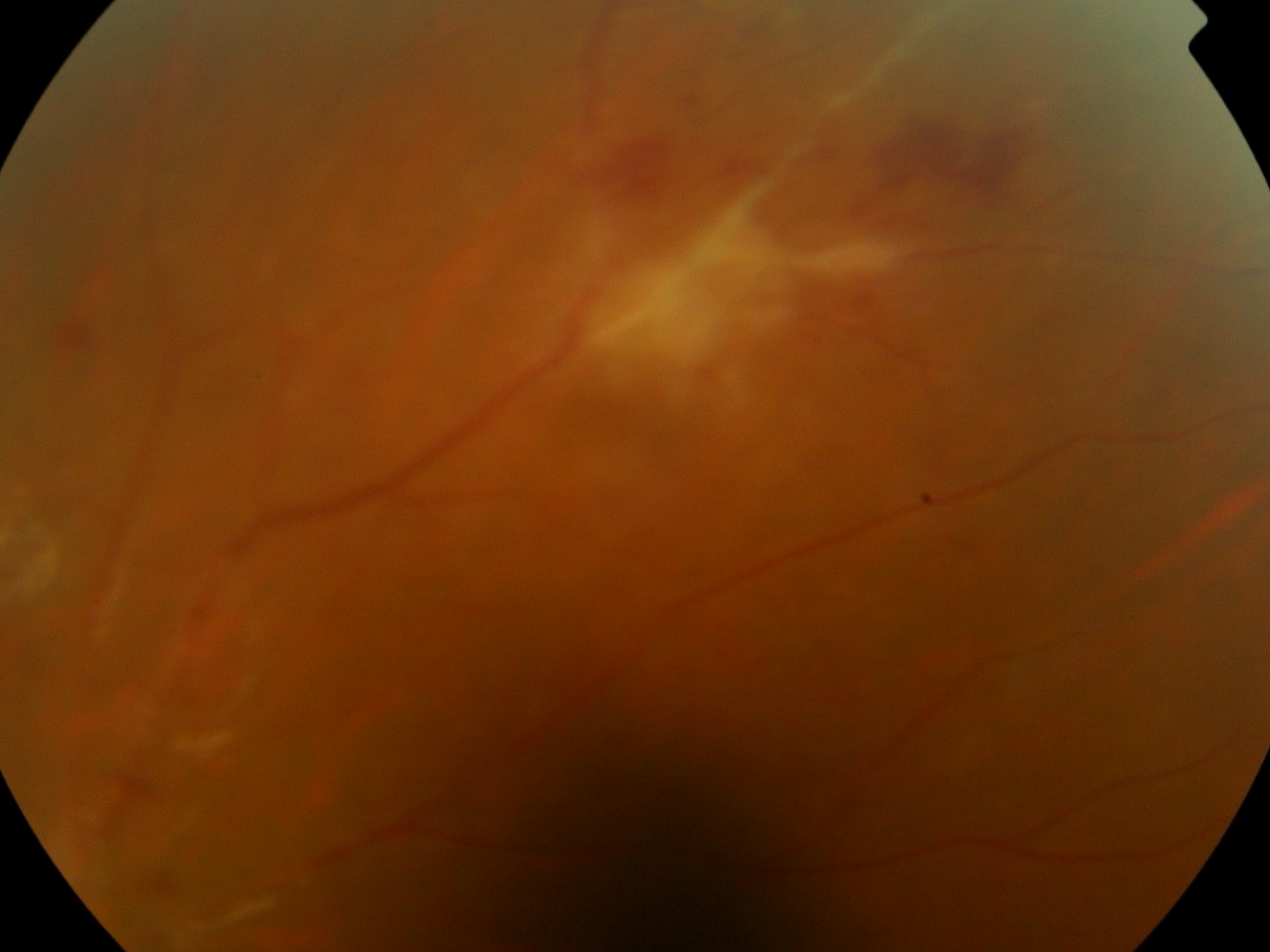
October 1, 2008

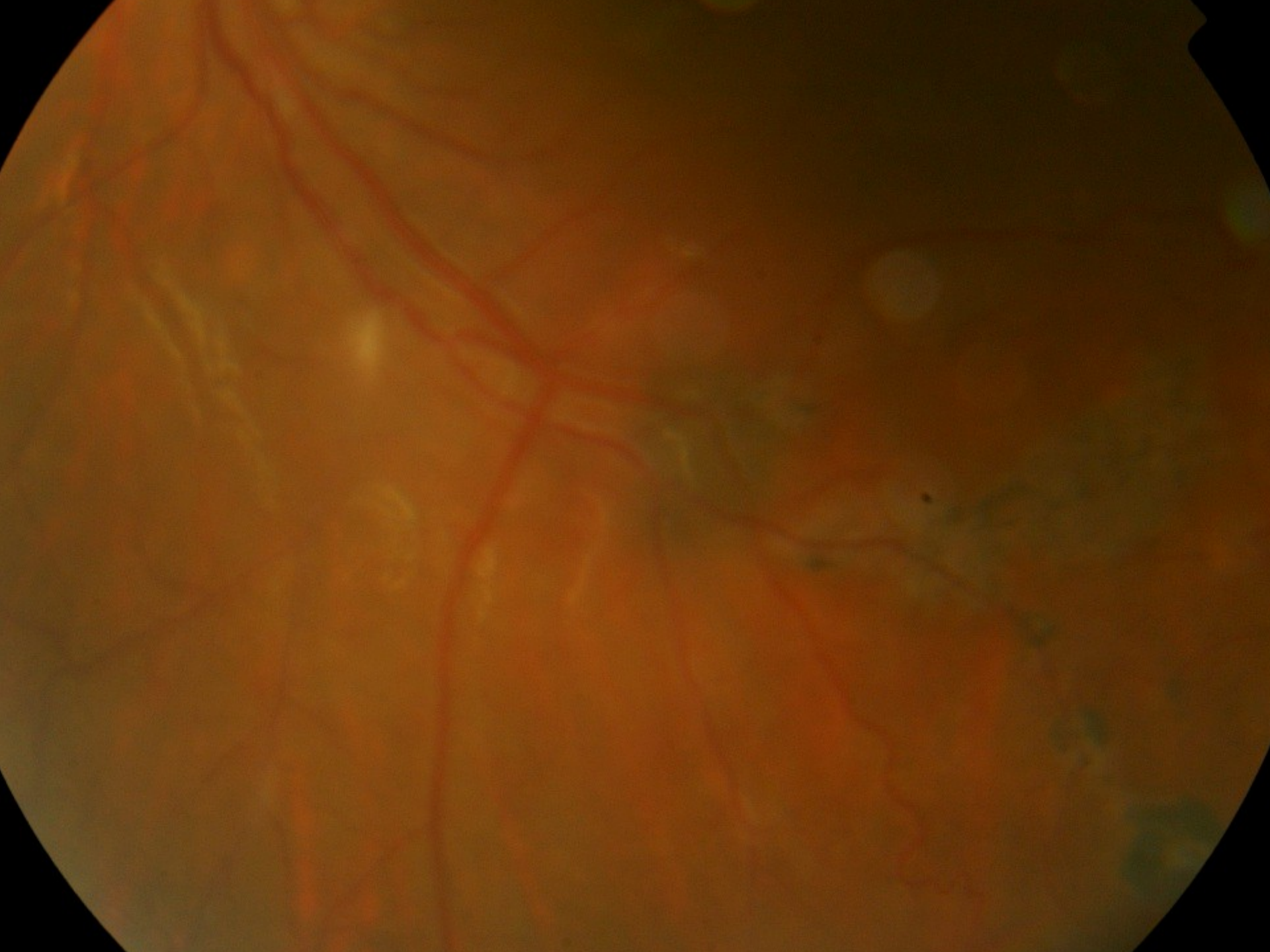
- 21 year old gentleman
- c/o RE poor vision for 3 weeks
- On Prednisolone 80 mg/ d for 5 days with no improvement

Ocular Examination

- Visual acuity RE 20/100; LE 20/20
- RE iritis, rigid pupil
- BE patches of retinitis-vasculitis, RE>LE







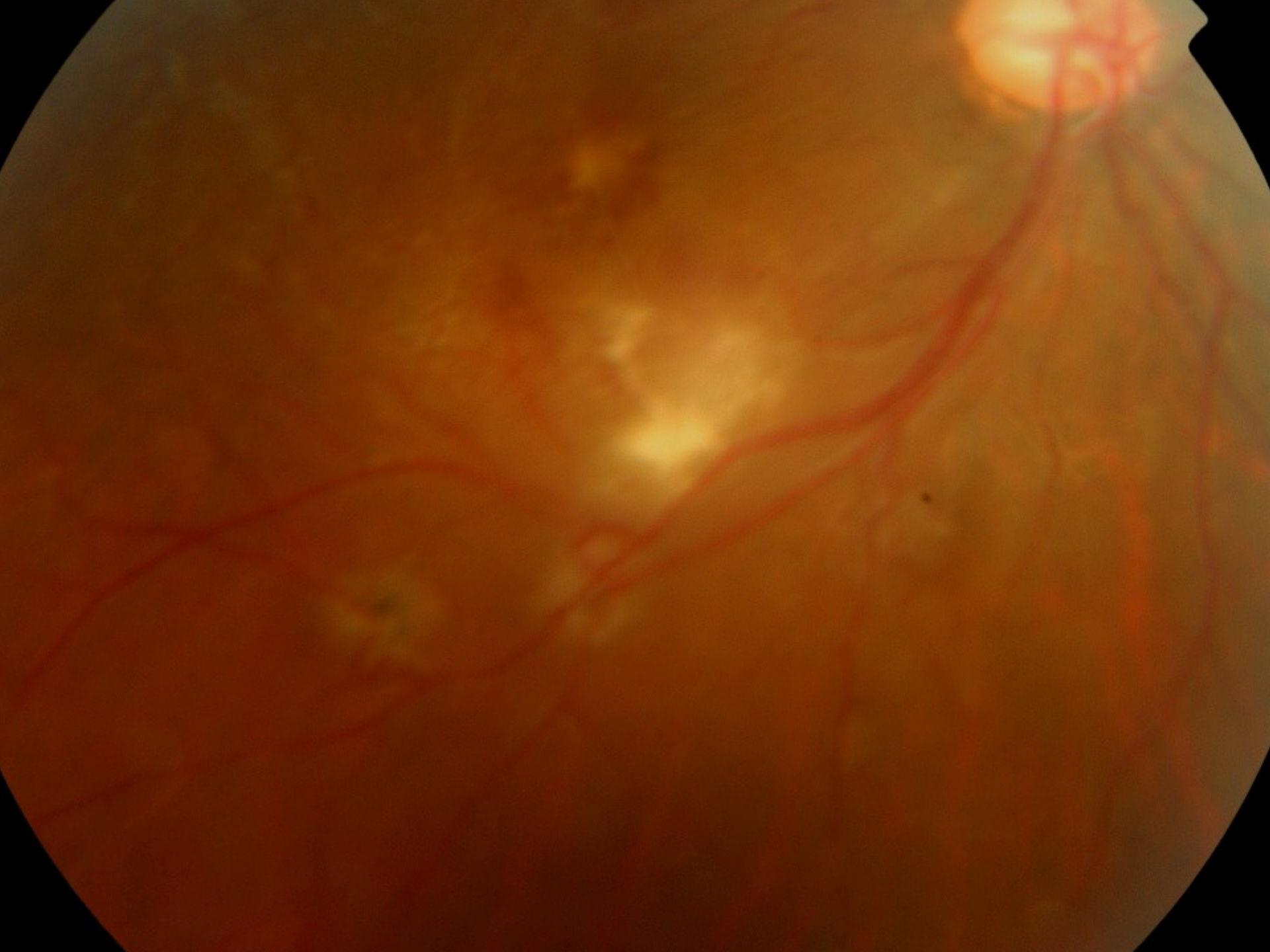
Investigations

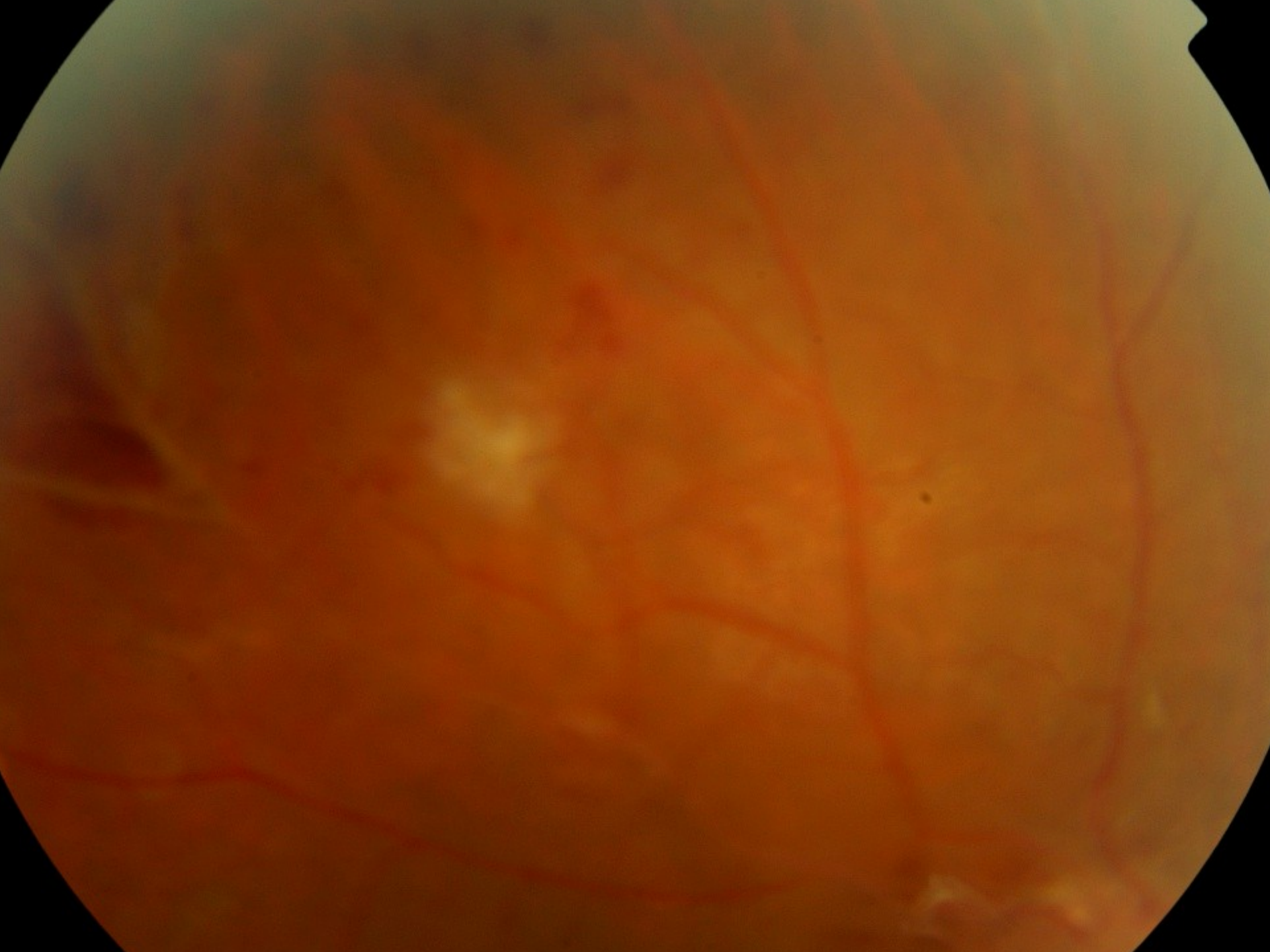
- Serology for Toxoplasmosis: negative
- Serology for HIV: negative
- Serum ACE: negative
- Chest X-ray: normal
- Mantoux: 10 mm induration at 48 hours
- ANA: negative

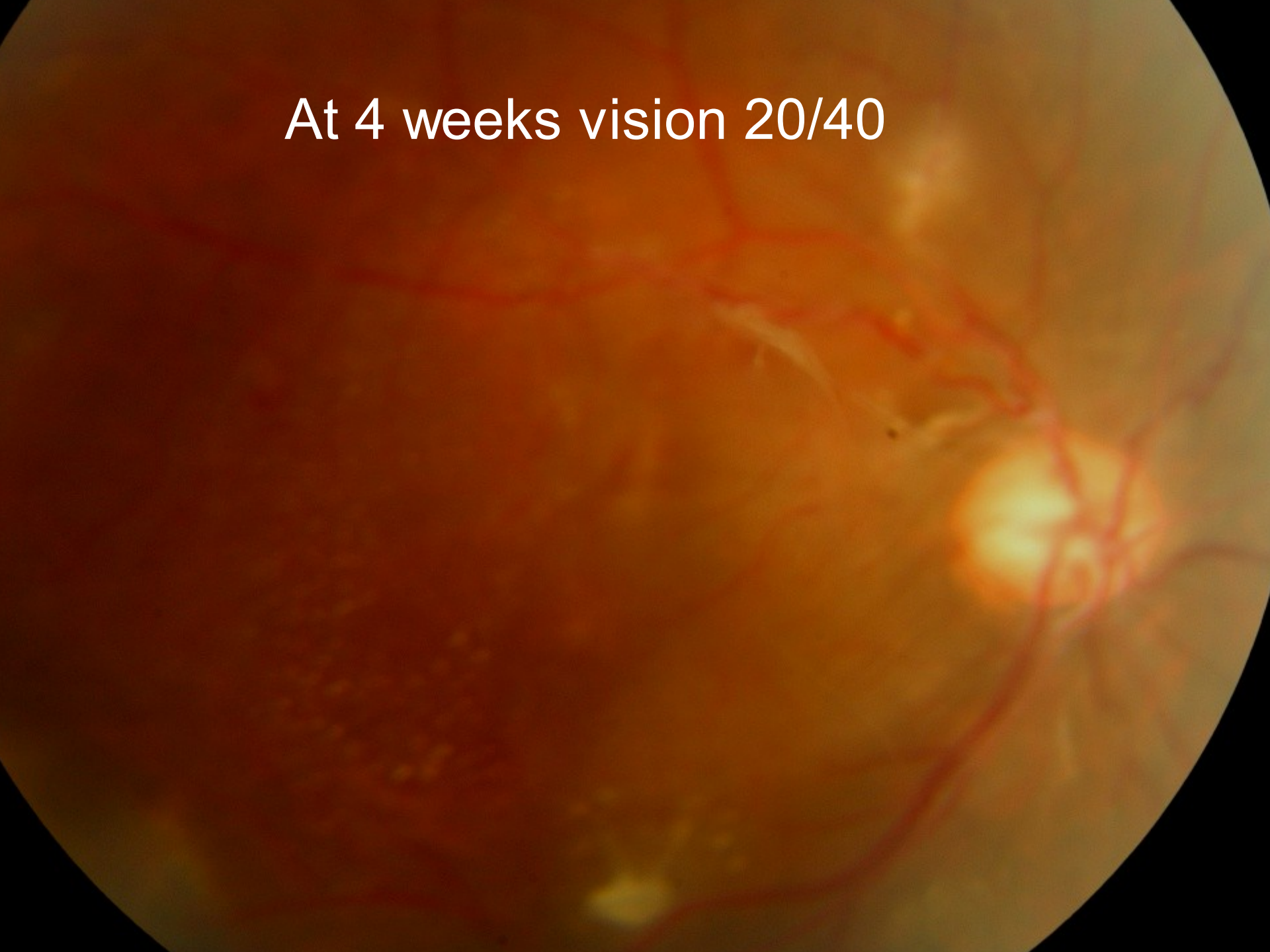
Presumed Toxoplasmic Retinitis

- Oral Azithromycin 500 mg/d for 6 weeks
- Oral Prednisolone 60 mg/ d: weekly taper


At 1 week activity resolving

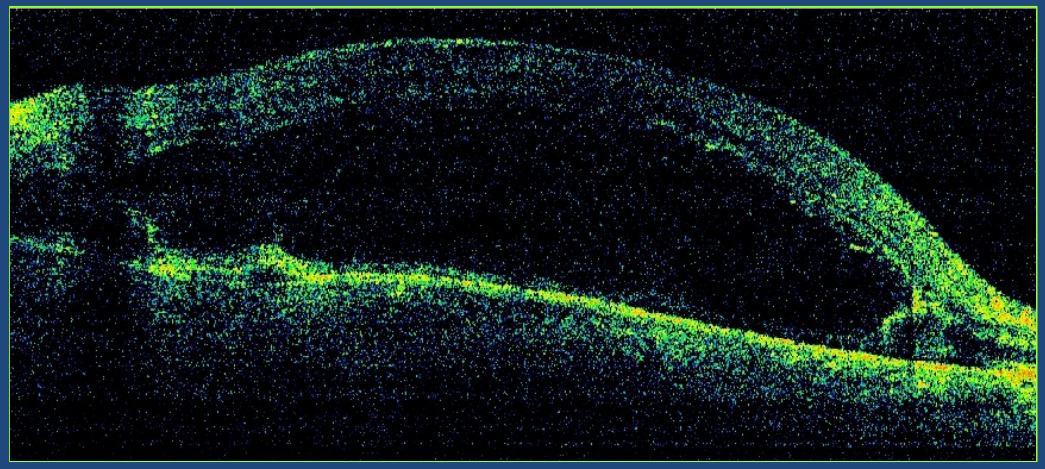


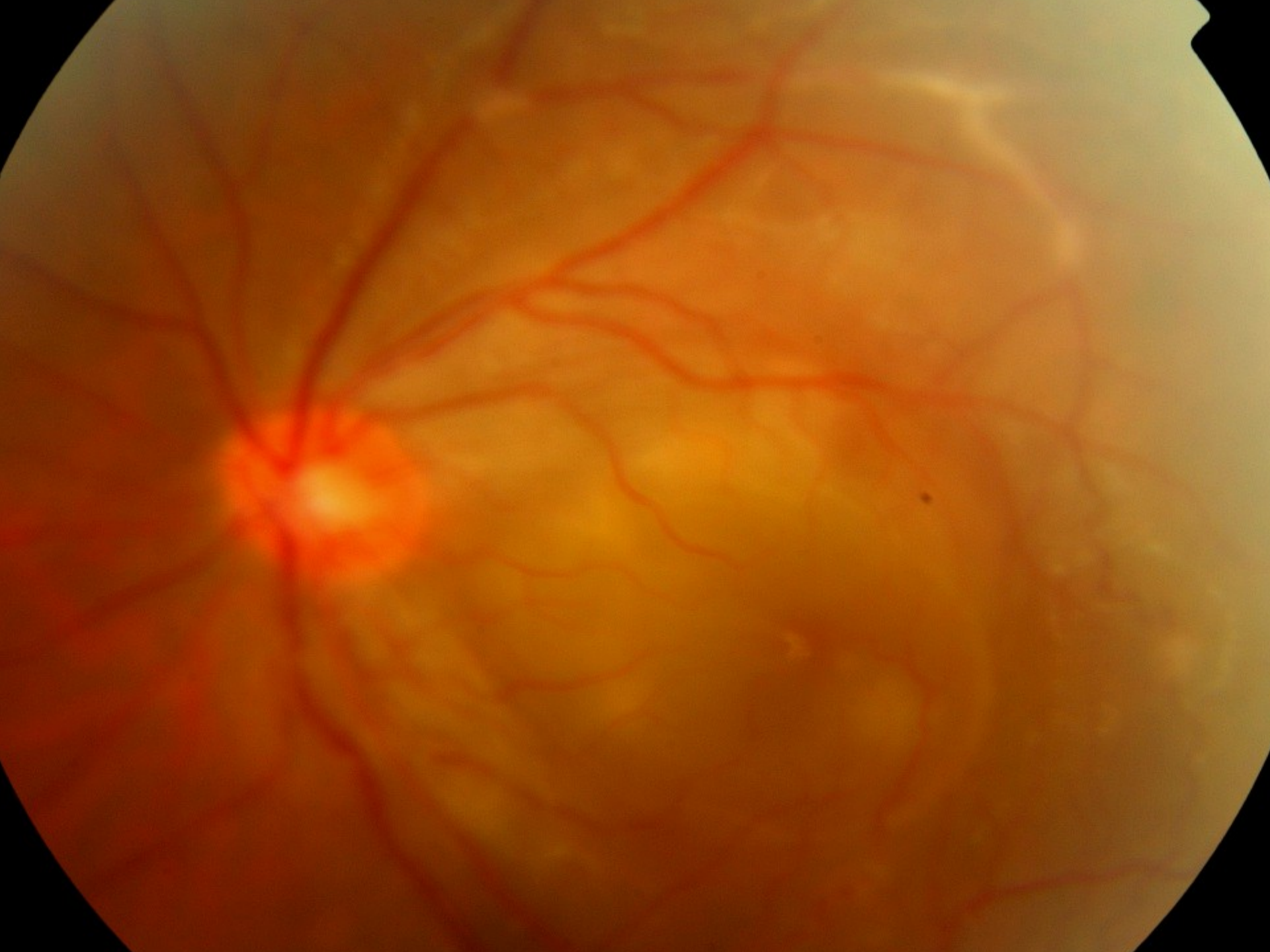


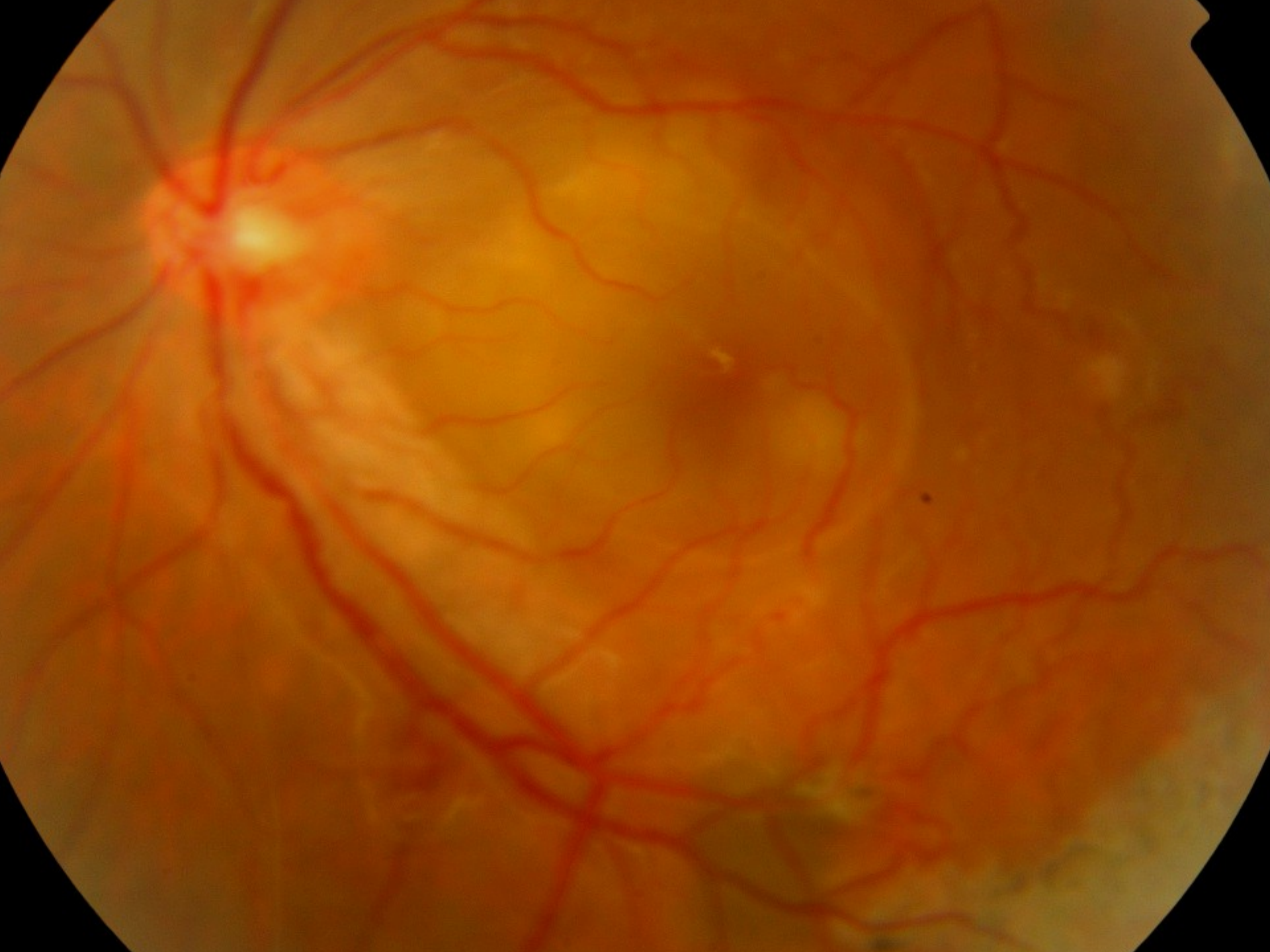

At 4 weeks vision 20/40

November 17, 2008
At 6 weeks

- LE sudden vision drop
- LE vision 20/25
- LE serous elevation at macula



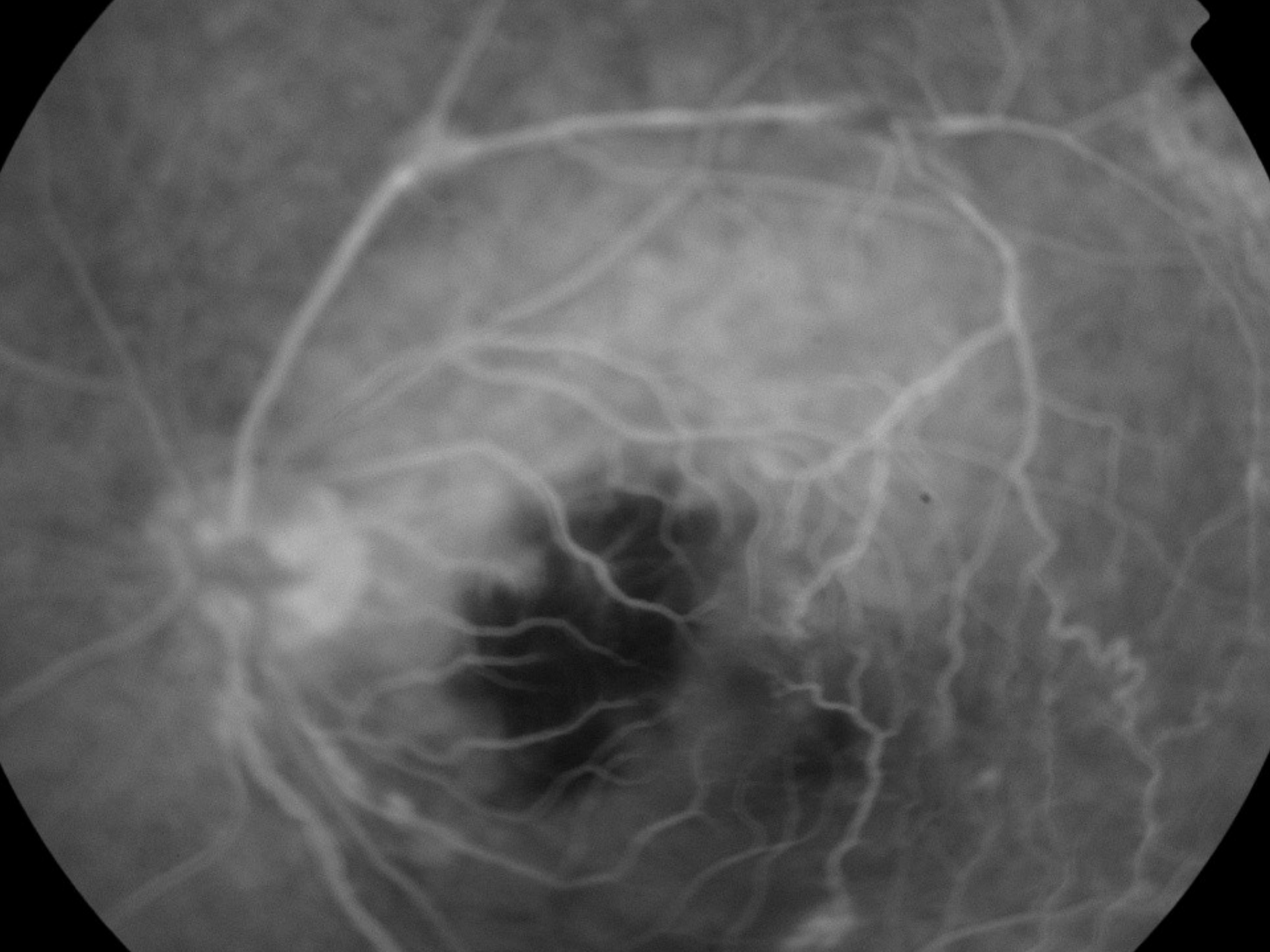


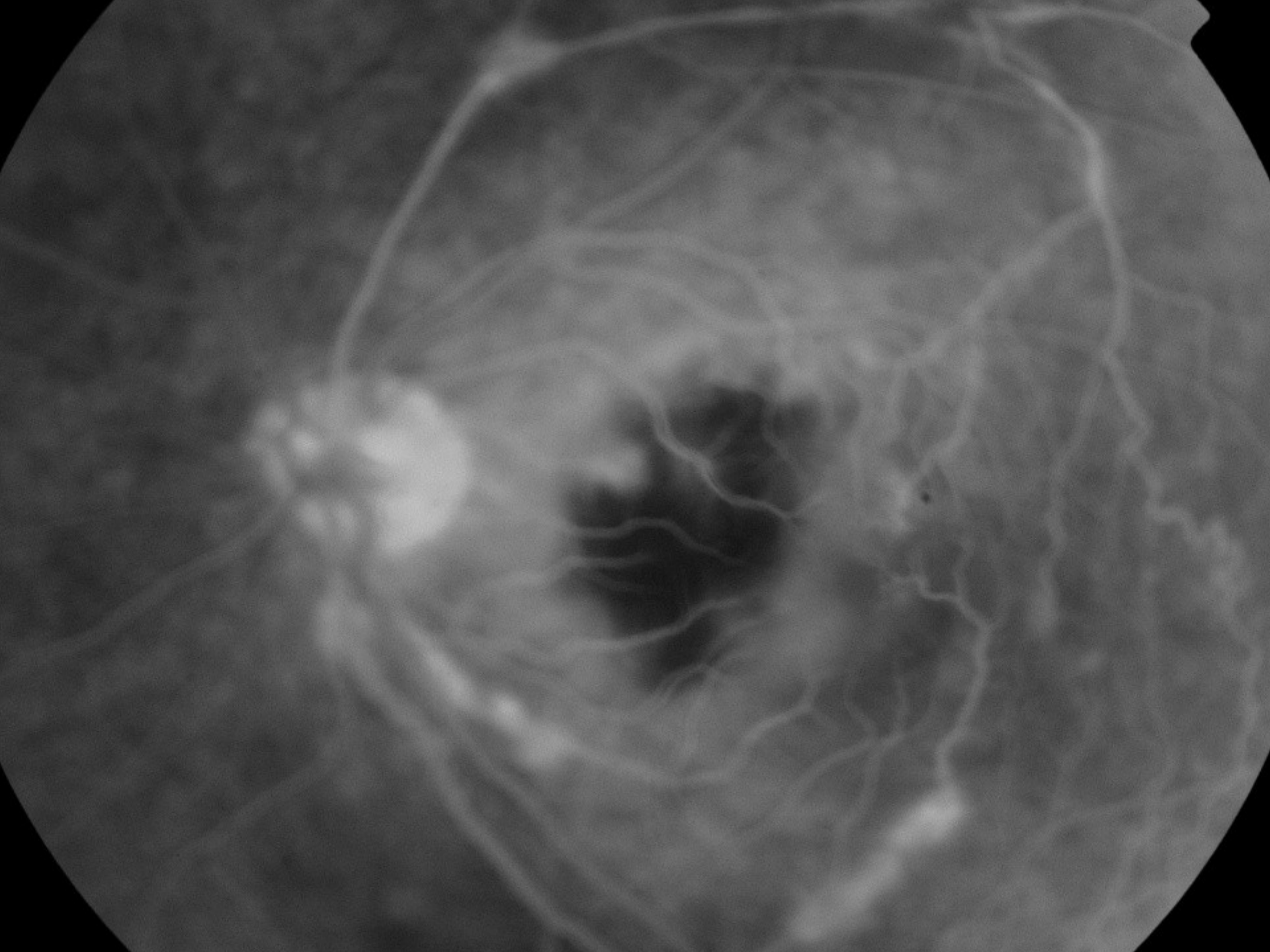


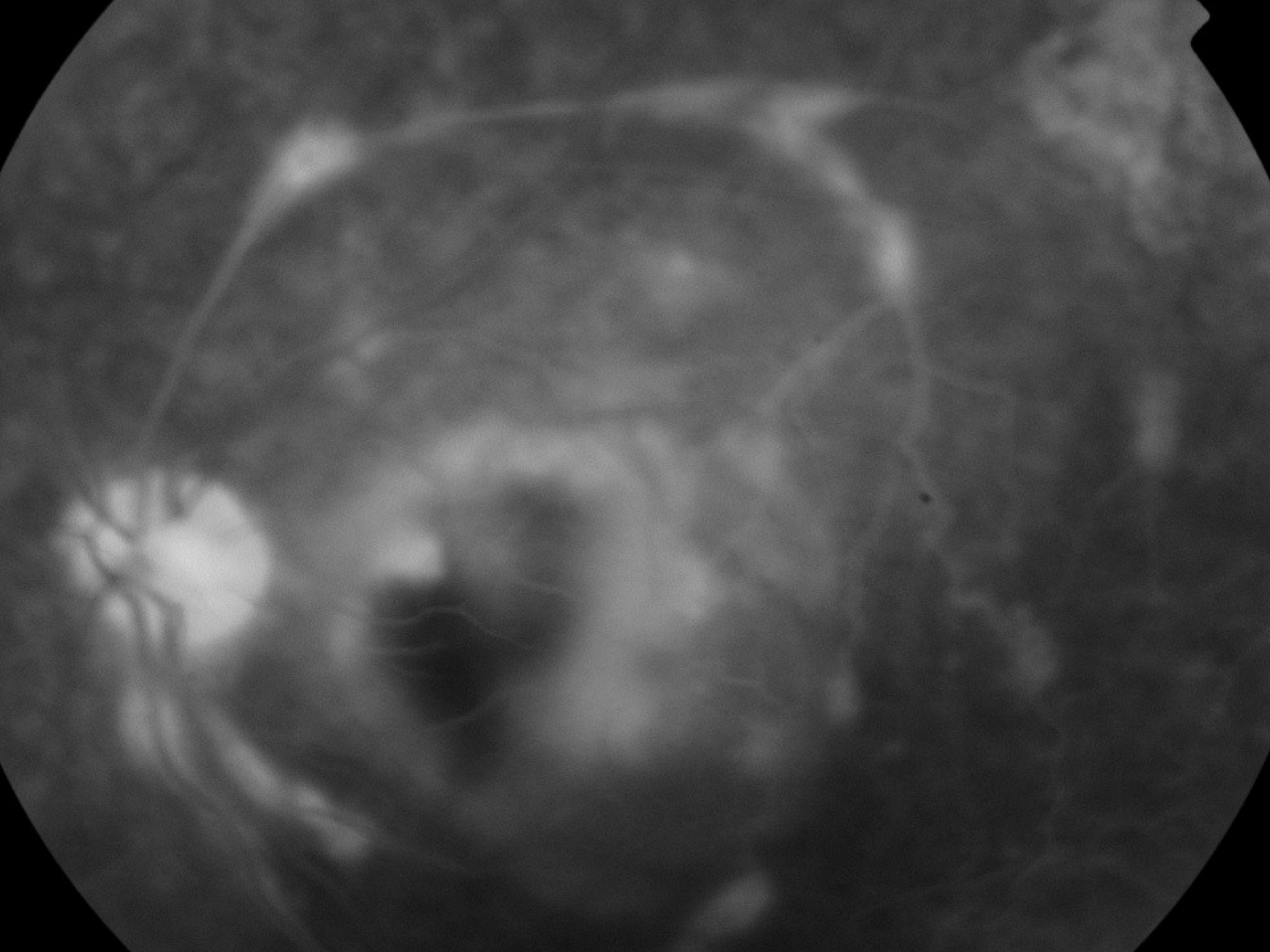
6 weeks of steroids + anti-Toxoplasma therapy
Diagnosis ?

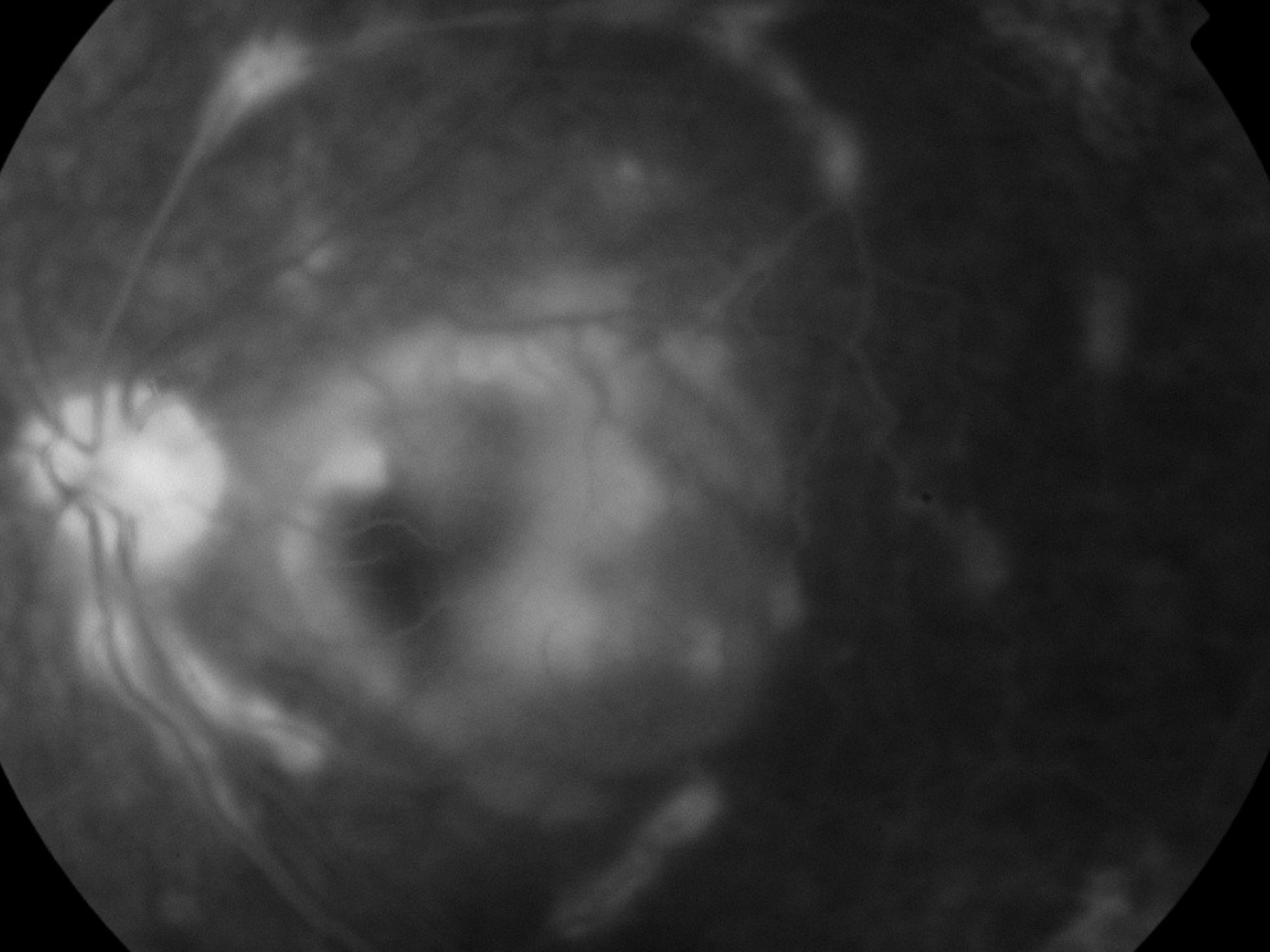
6 weeks of steroids + anti-Toxoplasma therapy
Diagnosis ?

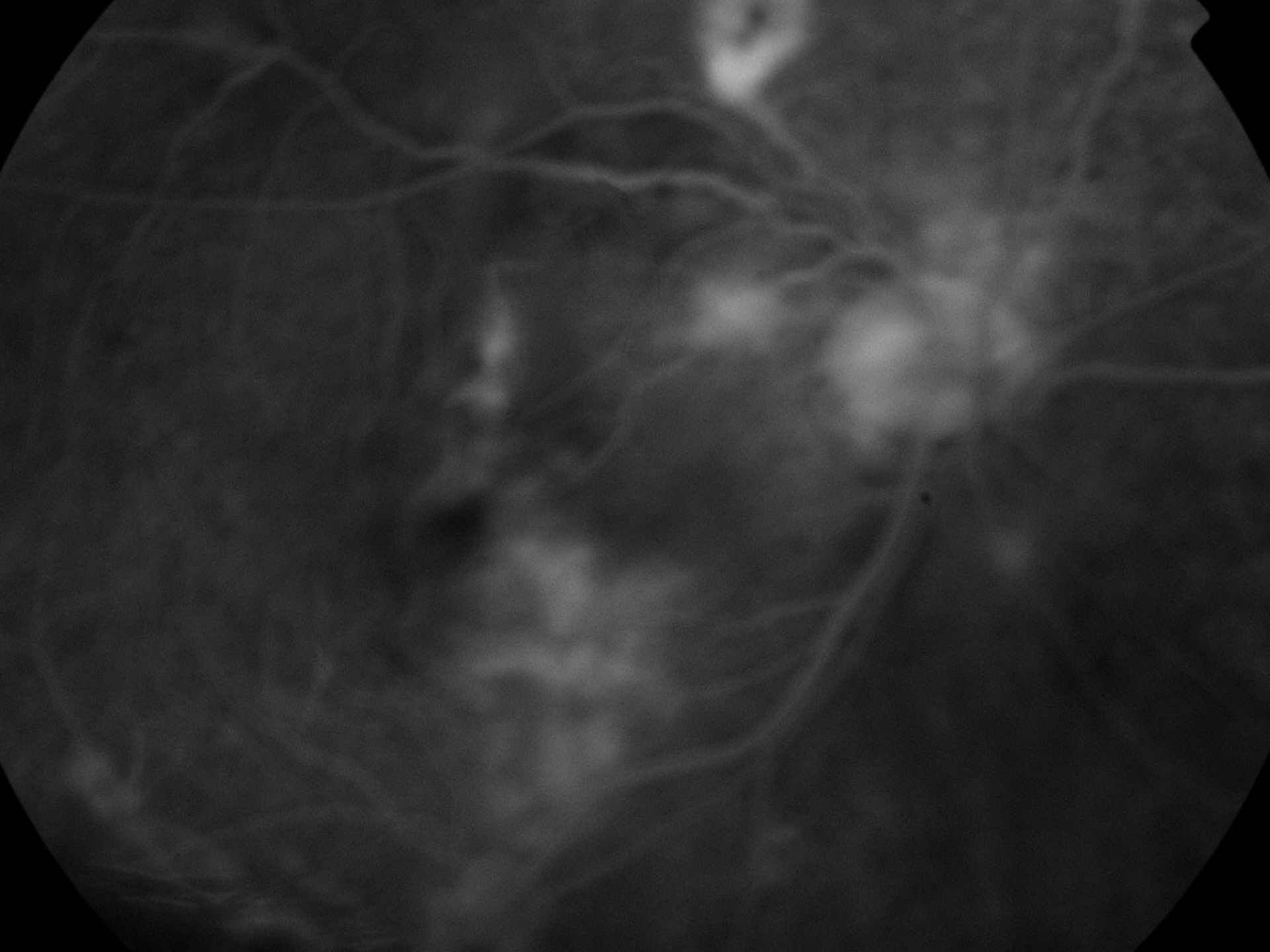
- Central Serous Retinopathy (steroid use)
- Choroiditis
- Choroidal ischaemia associated with Toxoplasmic RC





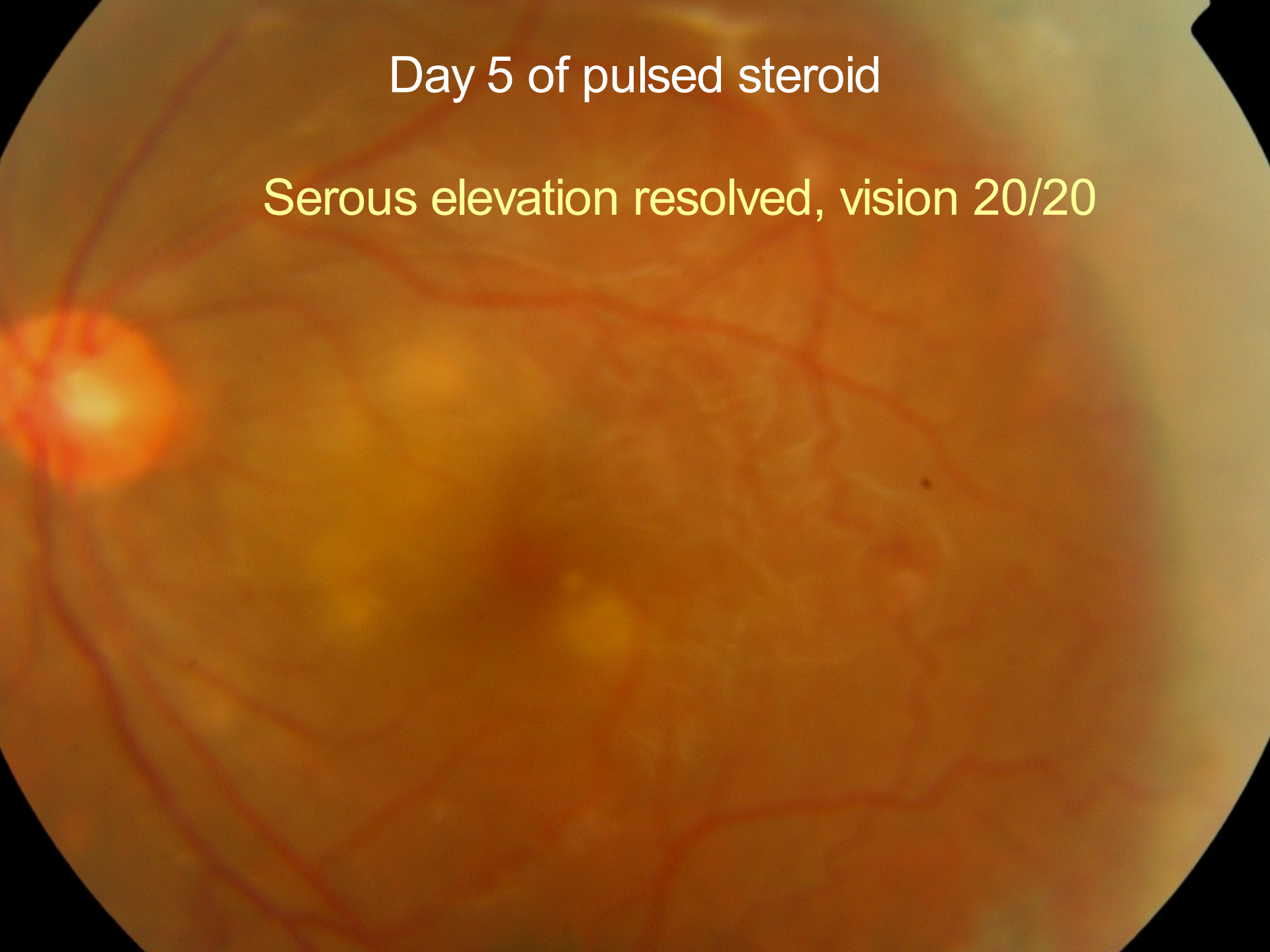






Angiographic Diagnosis

- Choroiditis-retinitis-retinal vasculitis
- IV methylprednisone 1 gm/ d x 5 days


Day 5 of pulsed steroid
Serous elevation resolved, vision 20/20


Day 5 of pulsed steroid

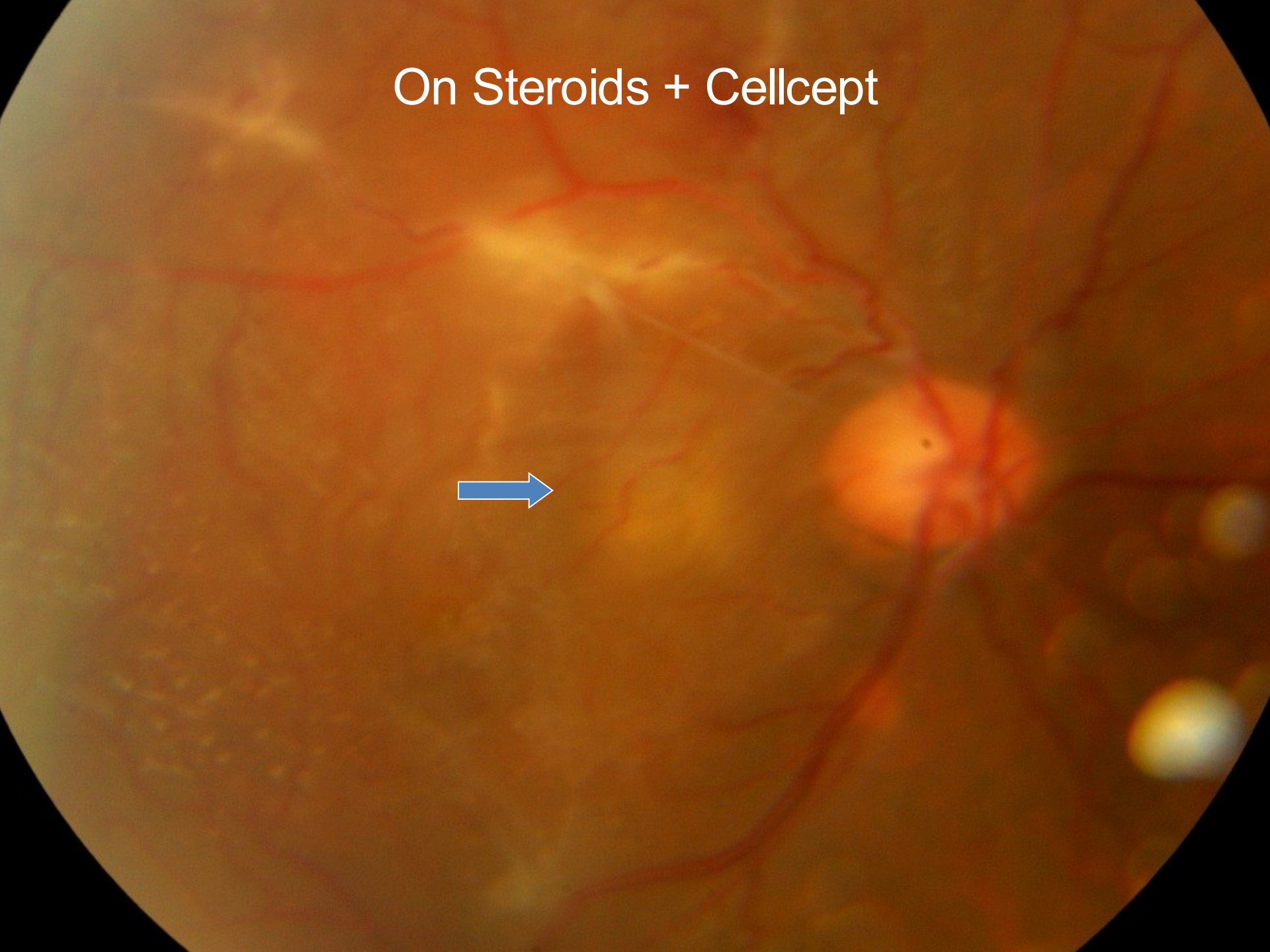
Etiologic Diagnosis

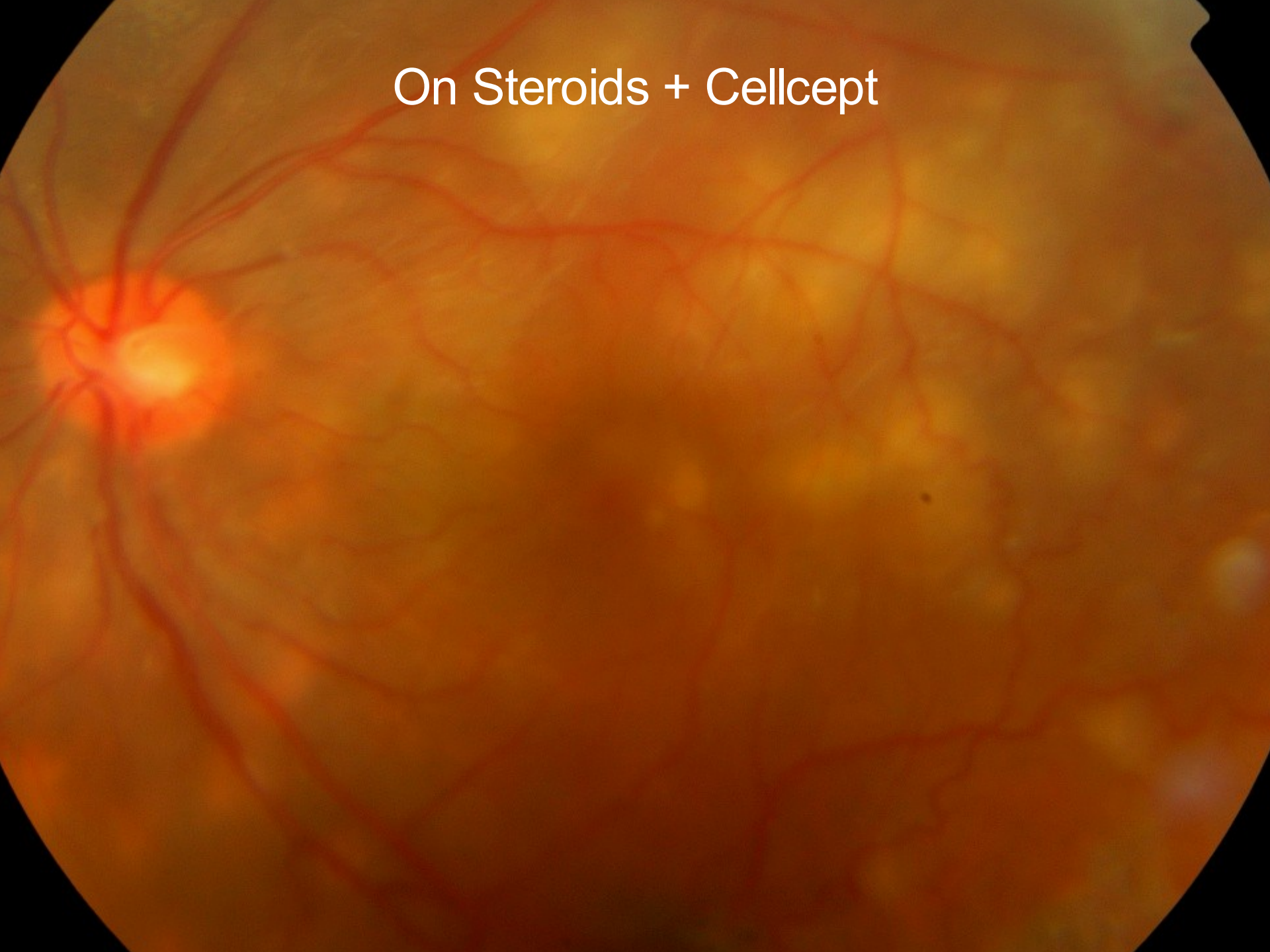
- Autoimmune Uveitis reactivation due to tapered steroid
- Oral Prednisolone 40mg/ d +

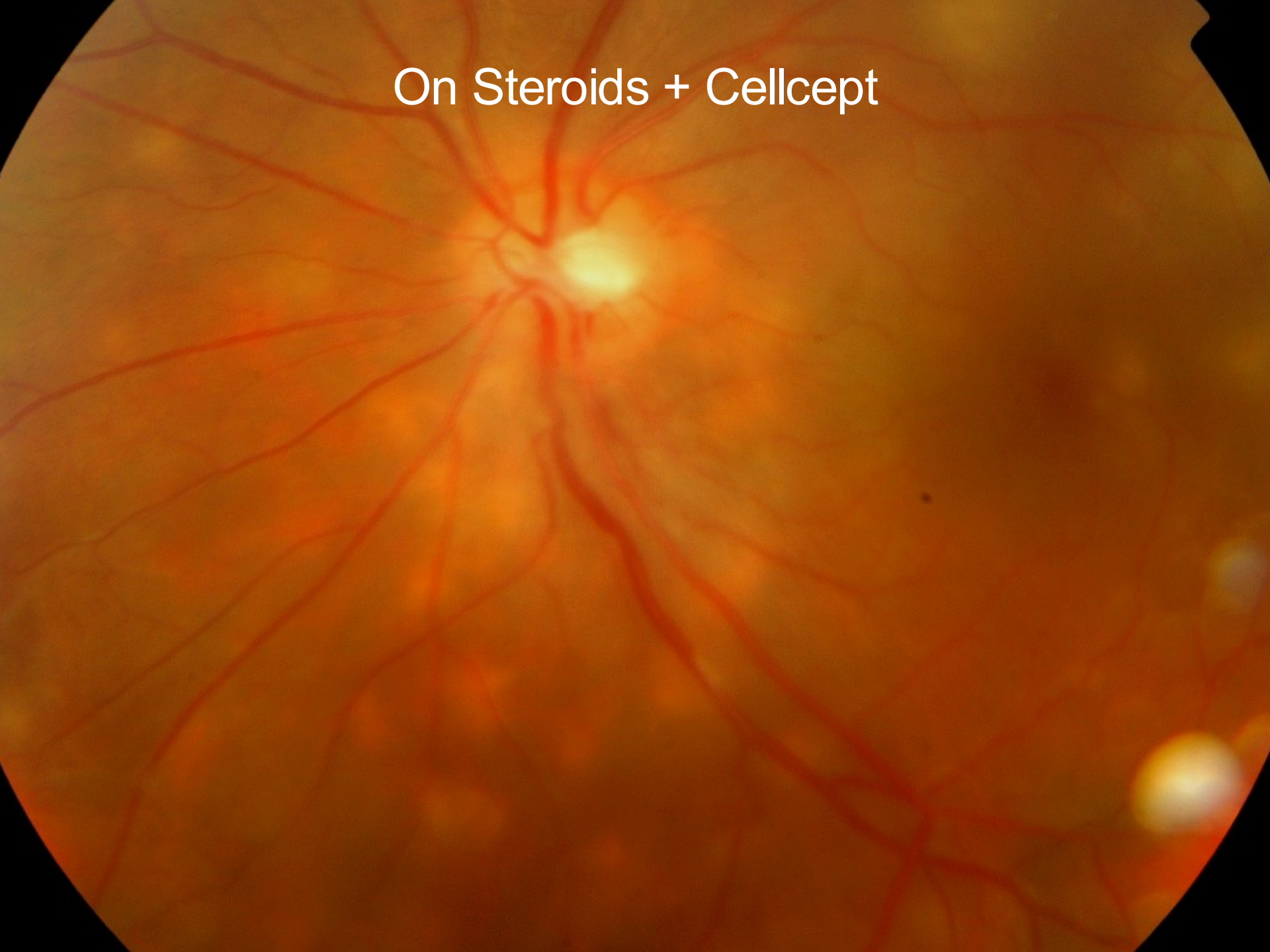
  Mycophenolate mofetil (Cellcept) 500 mg bid
- Azithromycin discontinued

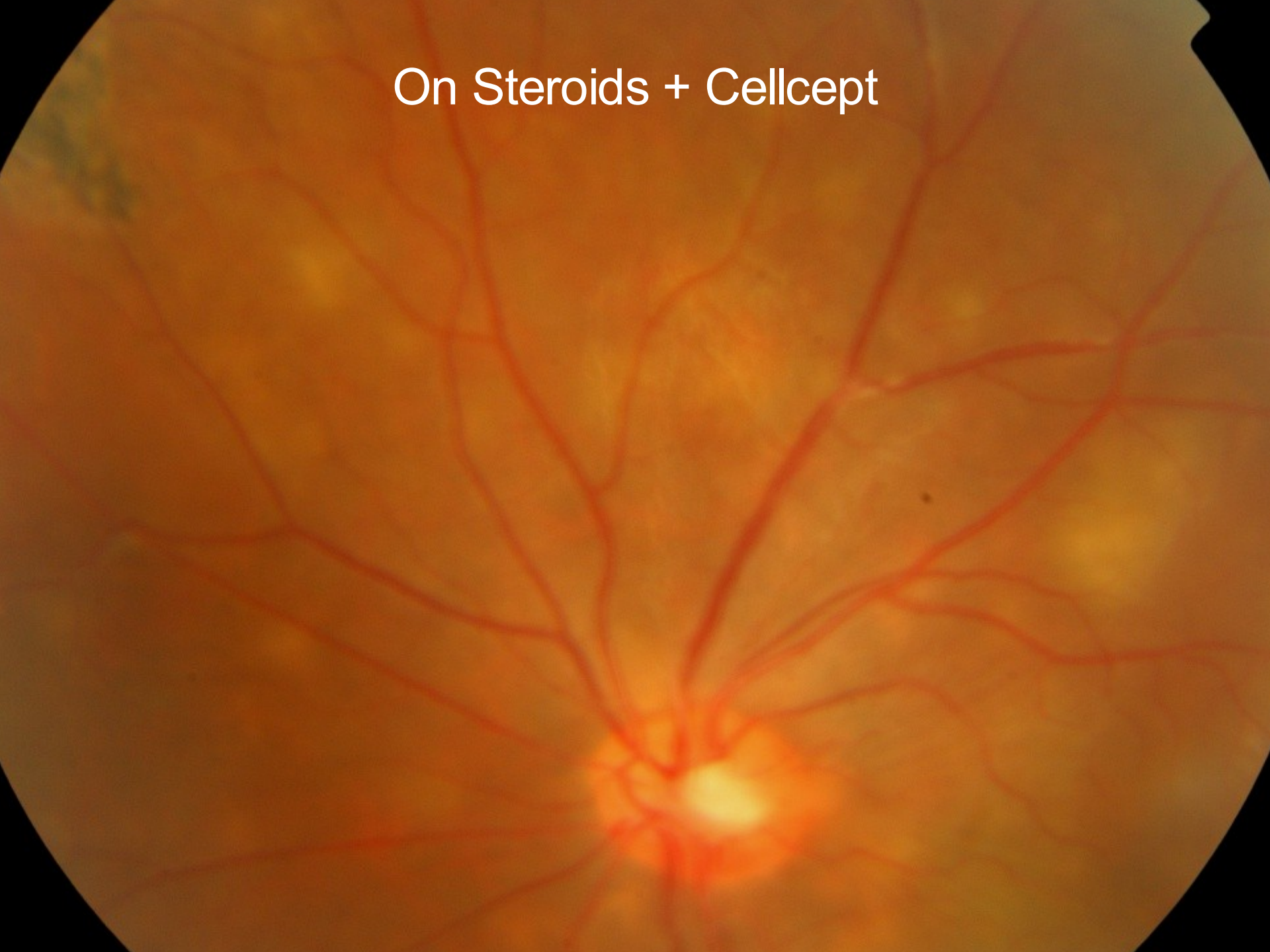
5 weeks of Steroids + Cellcept
Dec 27, 2008

- Prednisolone 20 mg/ d + Mycophenolate mofetil 500 mg bd
- Asymptomatic, but……
- Subretinal elevated lesions


On Steroids + Cellcept


On Steroids + Cellcept


On Steroids + Cellcept

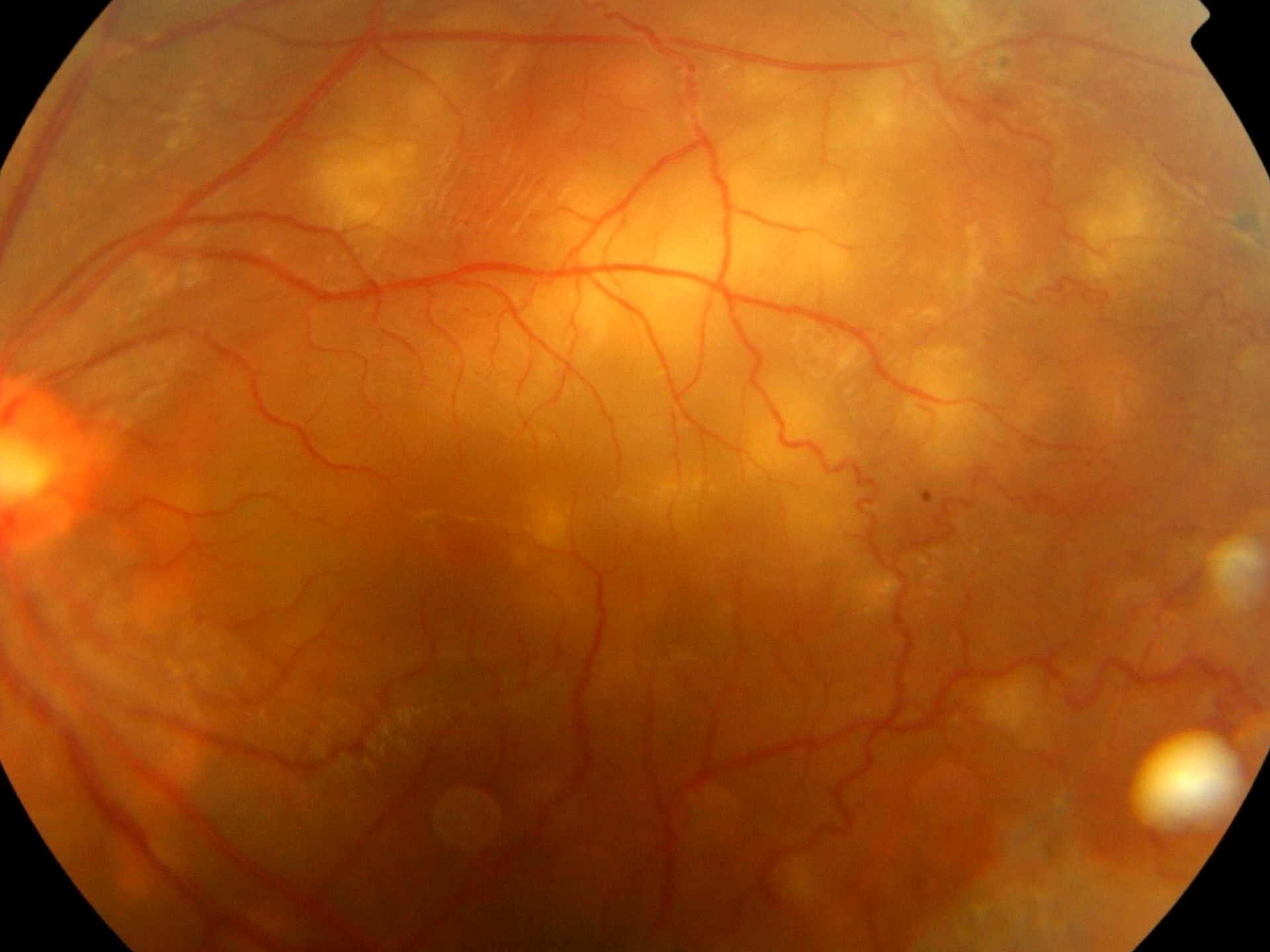

On Steroids + Cellcept

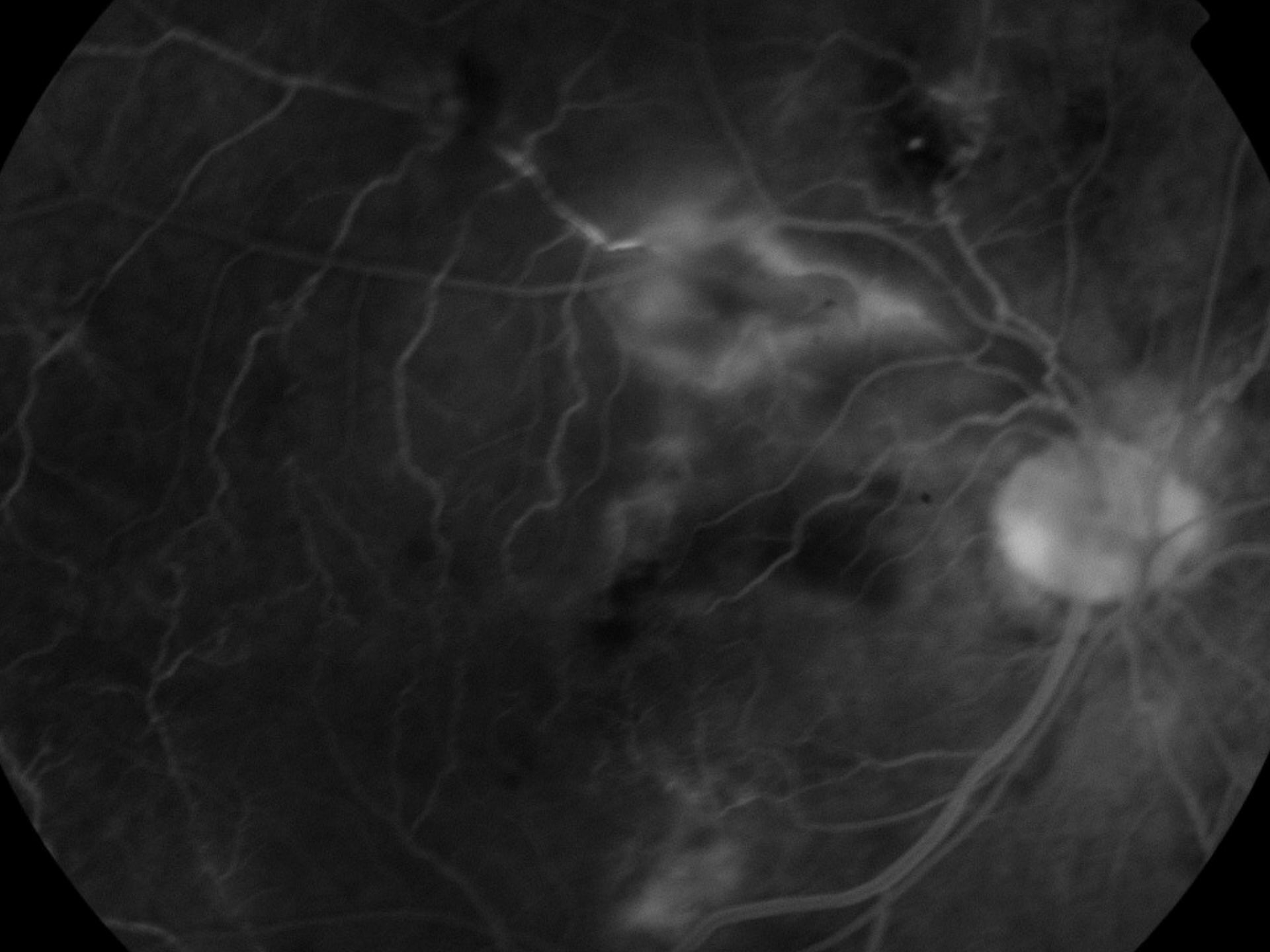
A day later……
5 weeks of Steroids + Cellcept

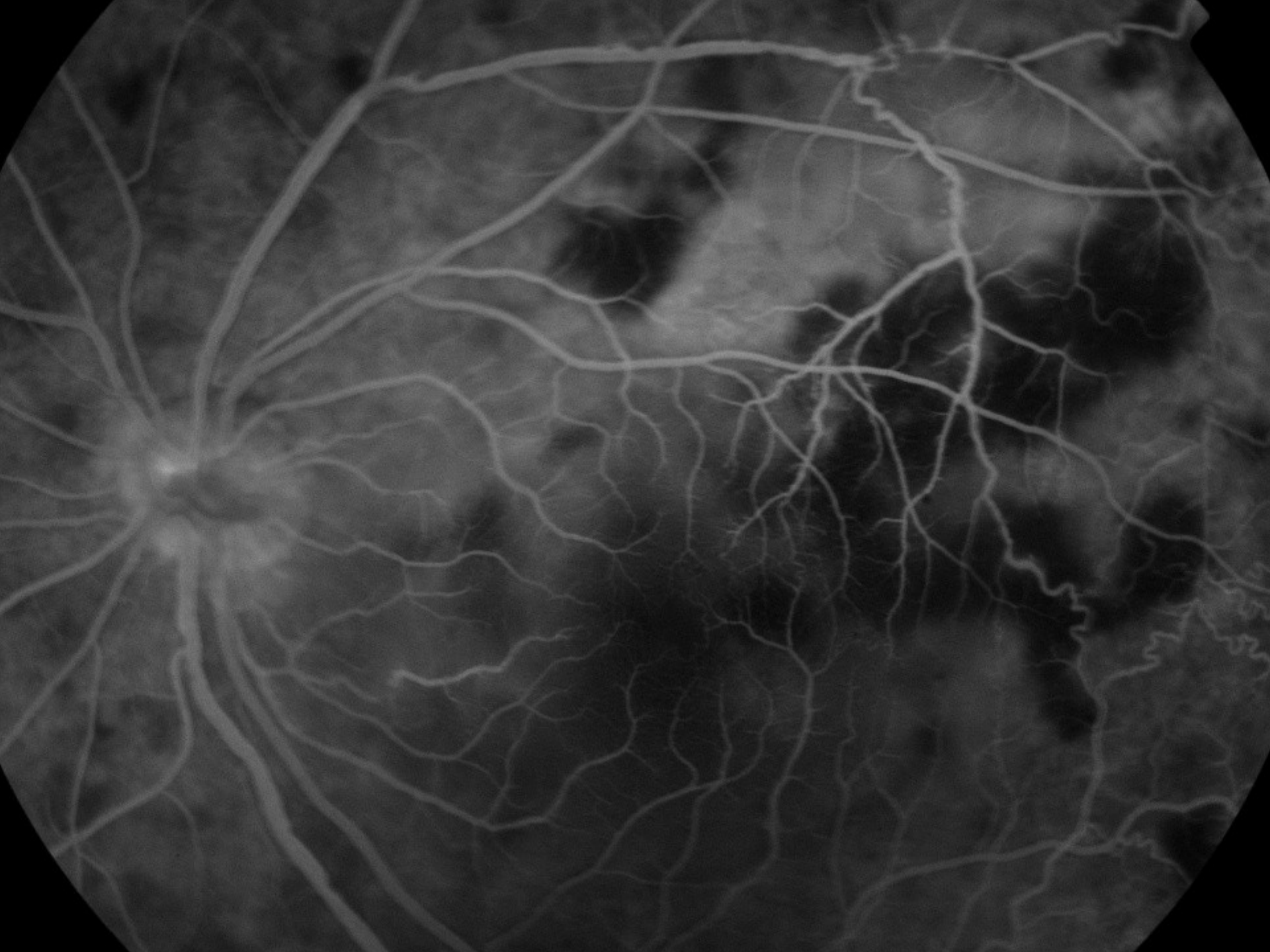
- LE sudden vision drop, pain, redness

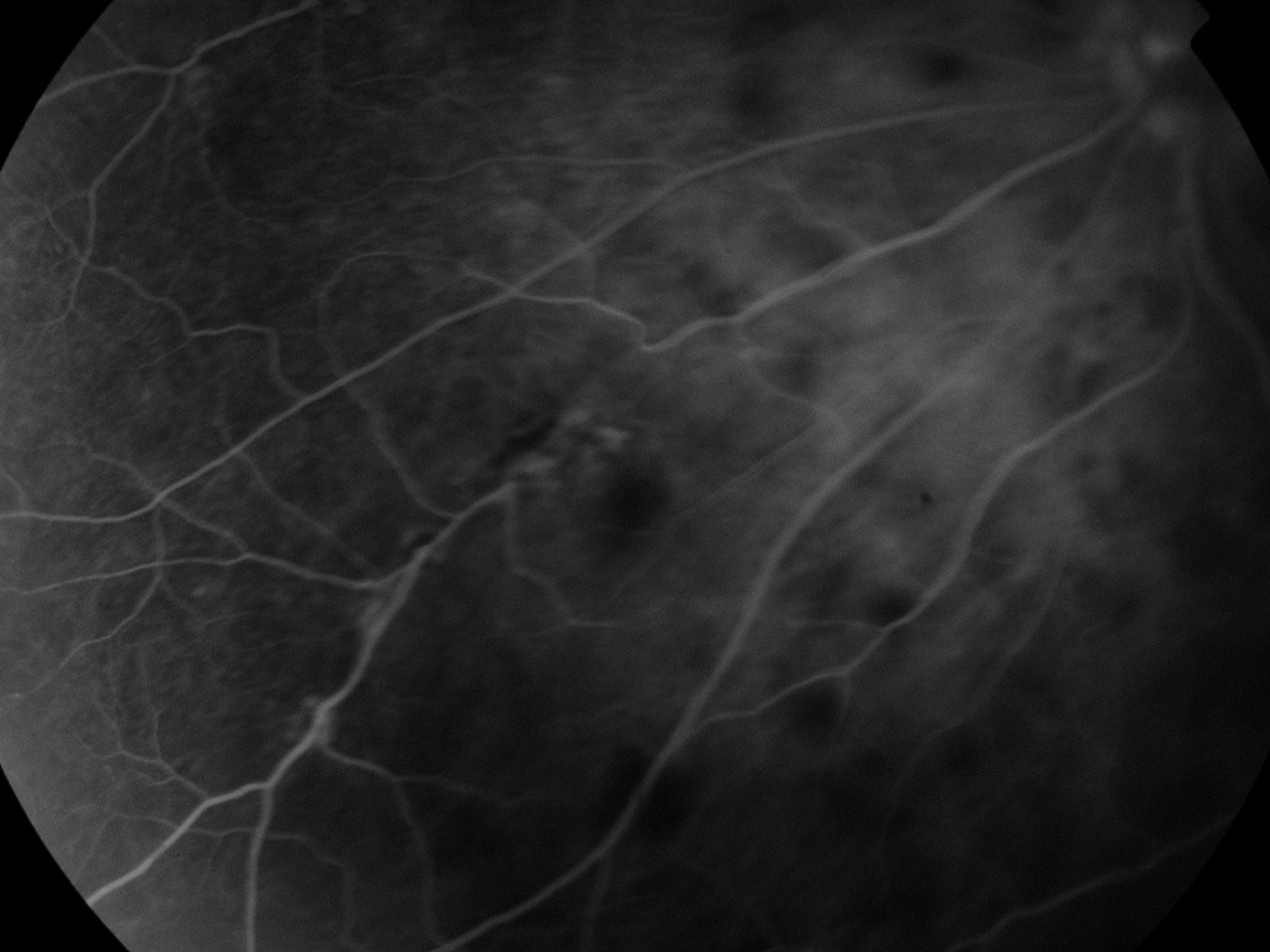
Dec 28, 2008
5 weeks after pulsed steroid

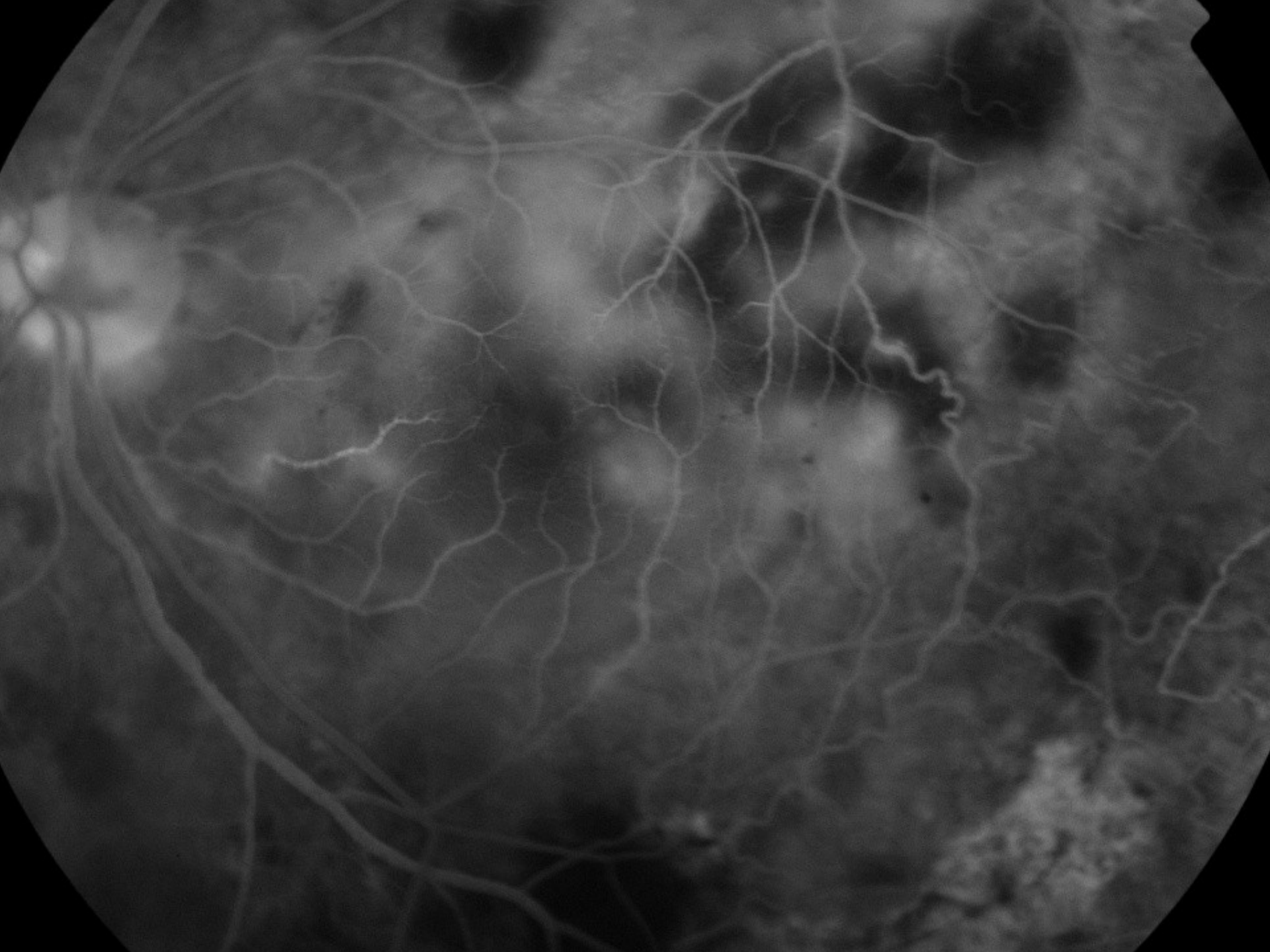
- LE vision 20/100
- Conj & circumciliary congestion
- AC flare & cells
- Serous elevation at macula

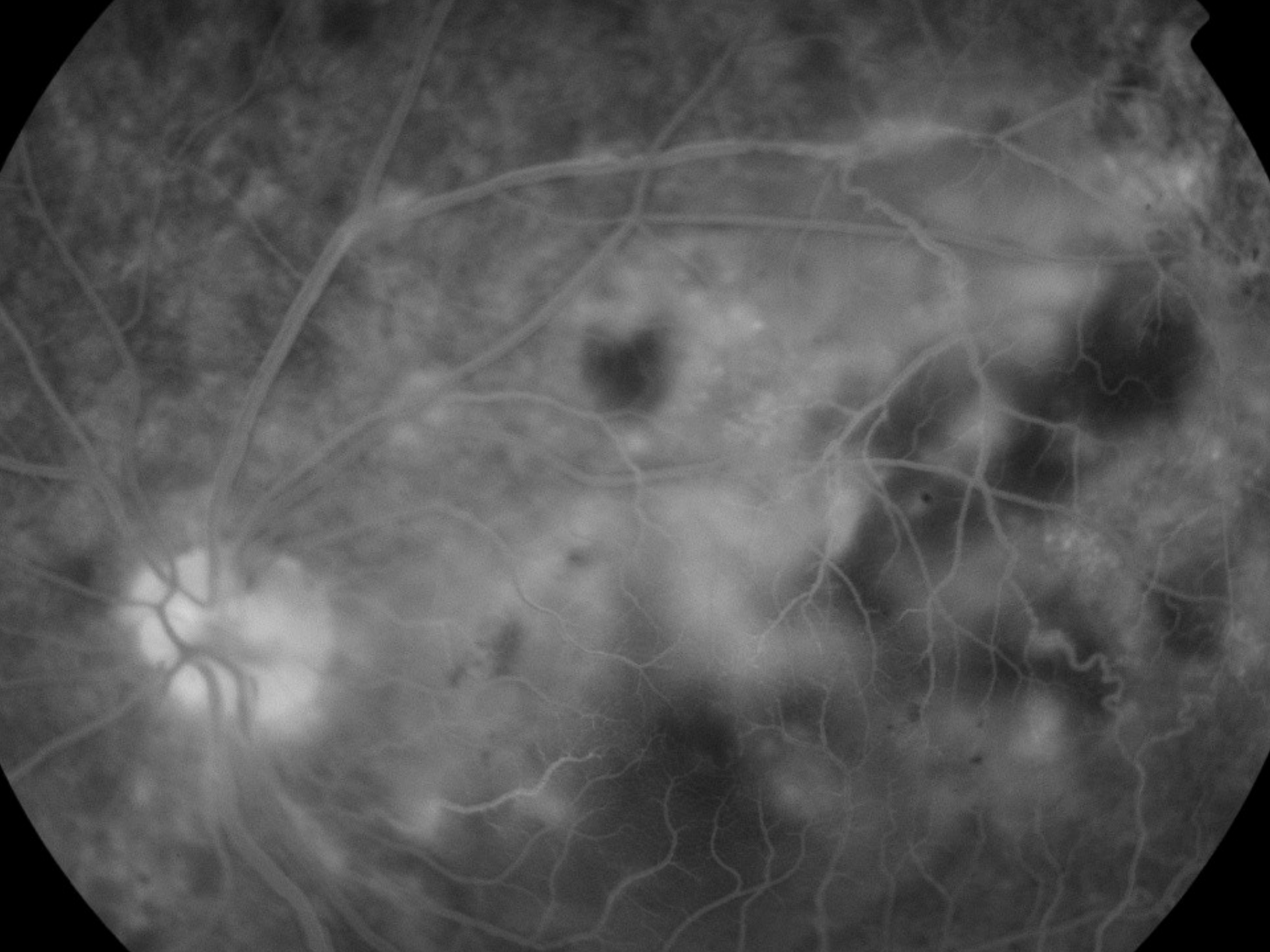


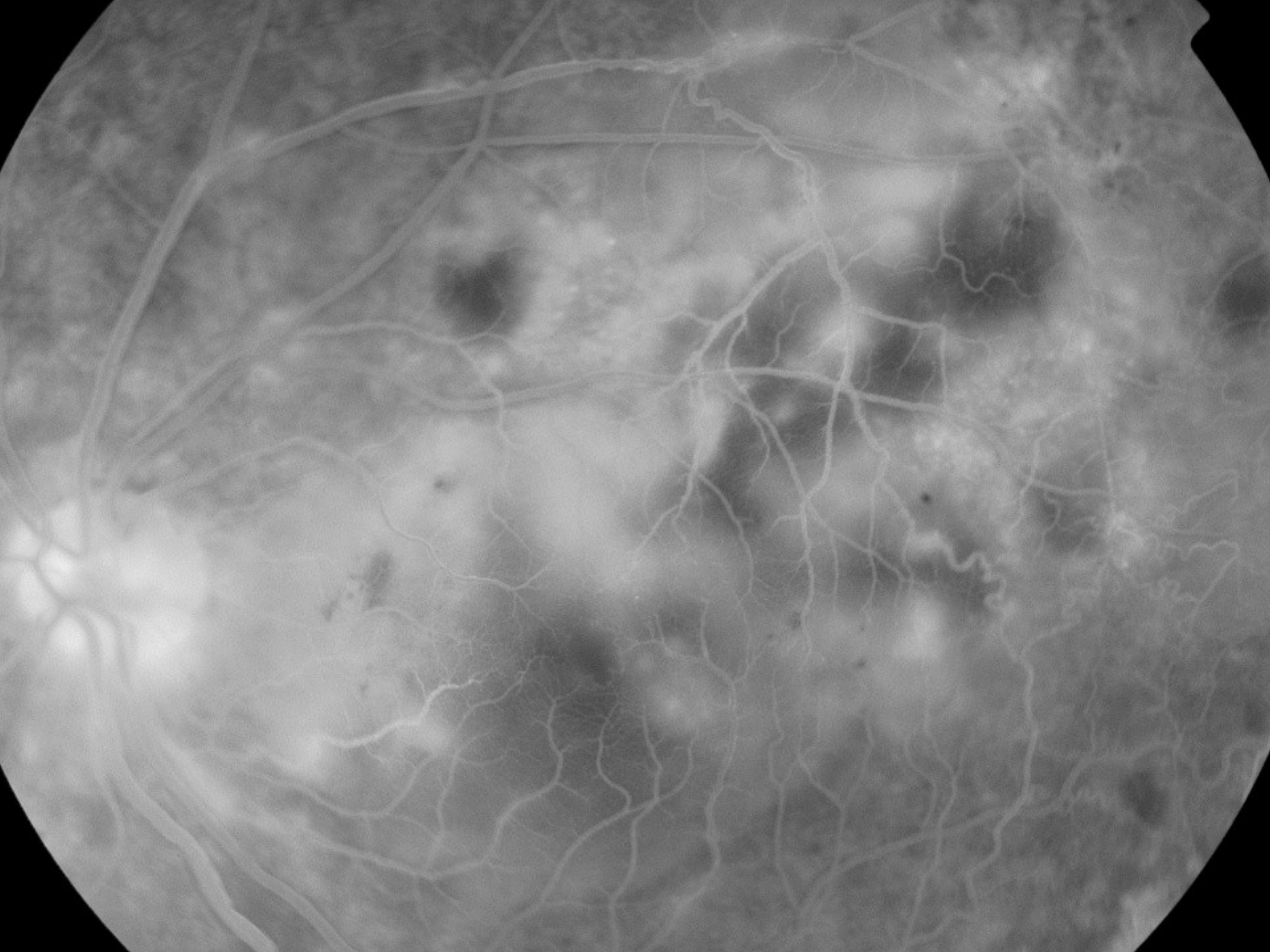


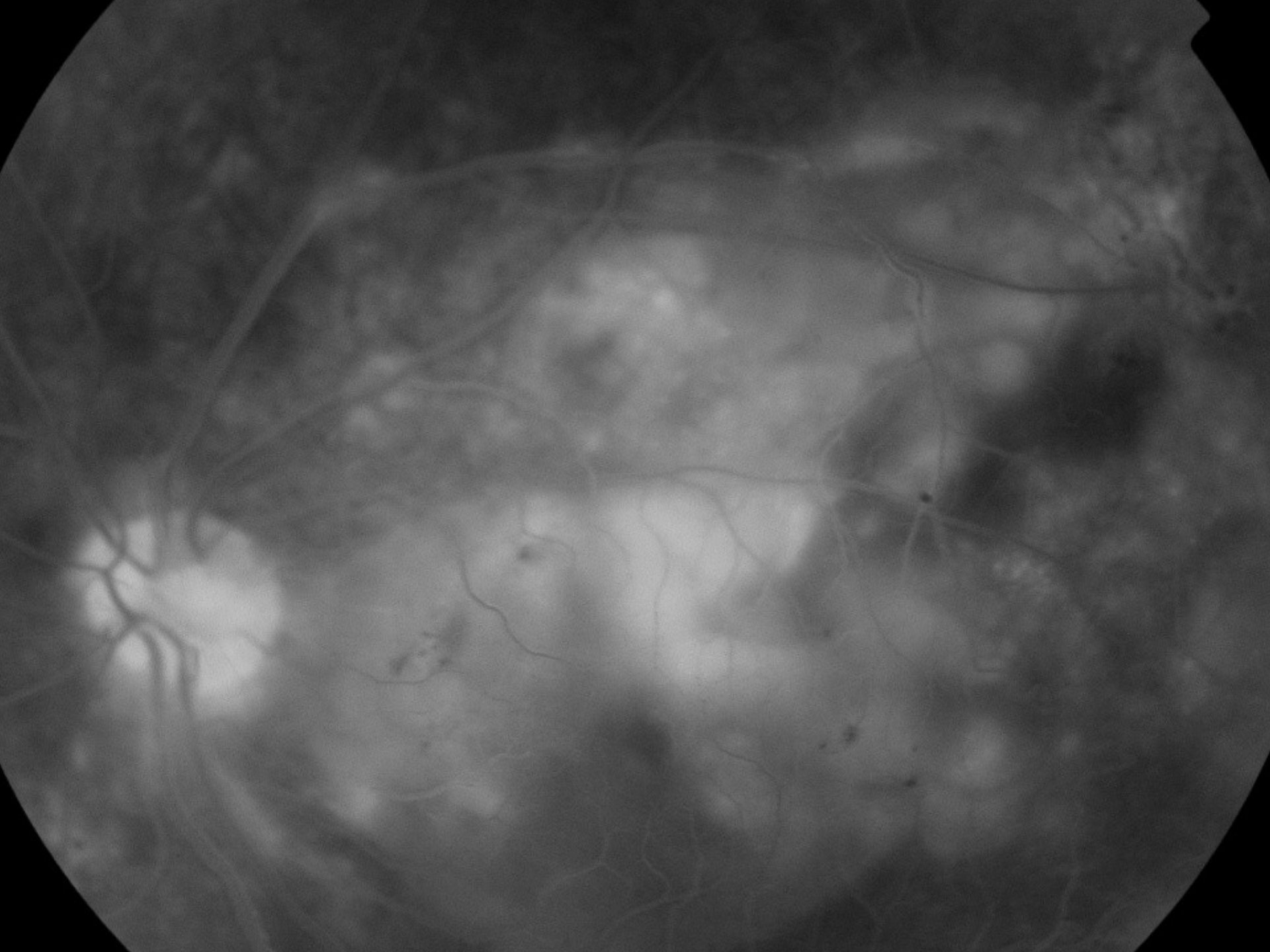












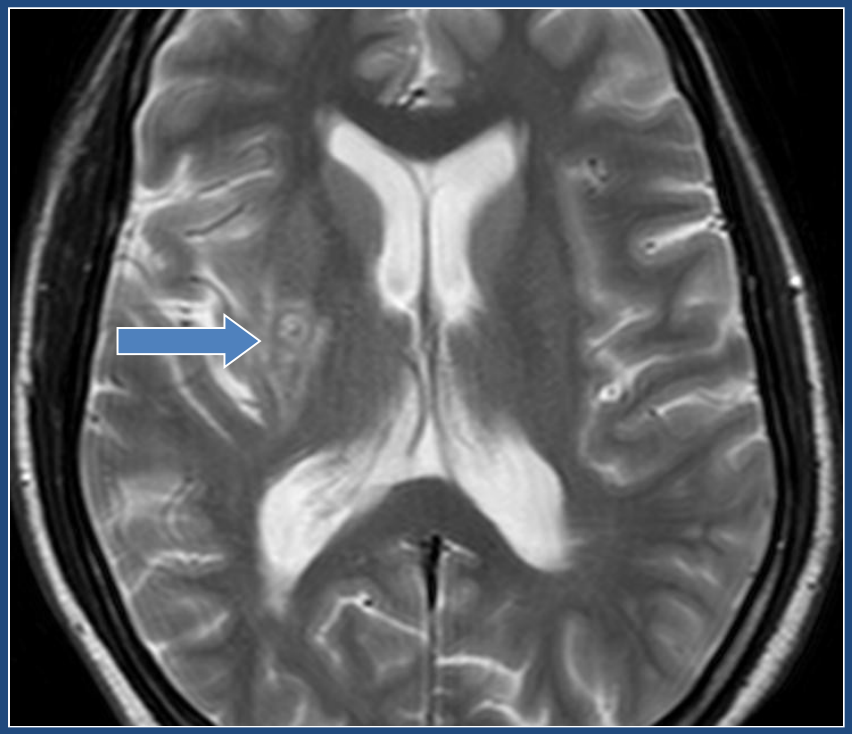
What would you do ?

Differential Diagnoses

- Tuberculosis-associated Uveitis
- Ocular Tuberculosis
- Ocular Lymphoma

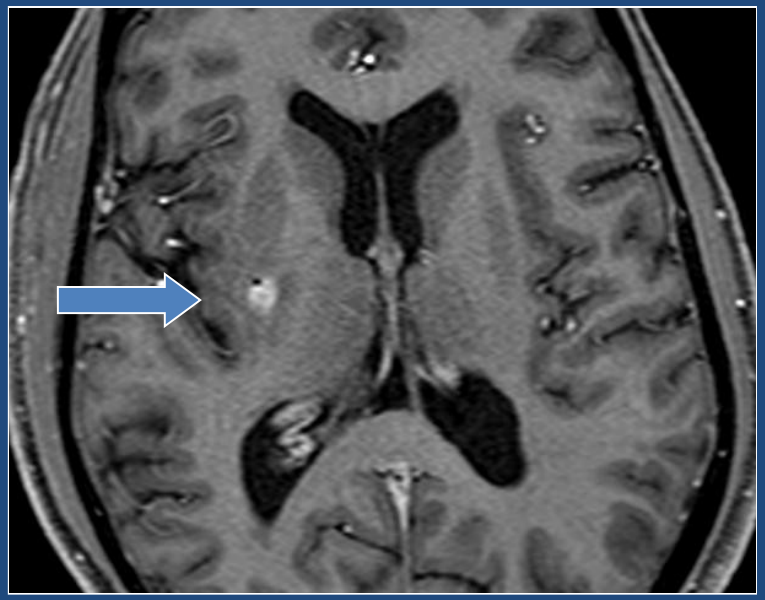
MRI brain
t2 image

- Small focal lesion with edema in right basal ganglia



MRI brain
t1 image, post-contrast study

- Ring enhancing granuloma
- Possible sarcoid/ tubercular
- Unlikely to be lymphoma



Ocular Oncology Consult

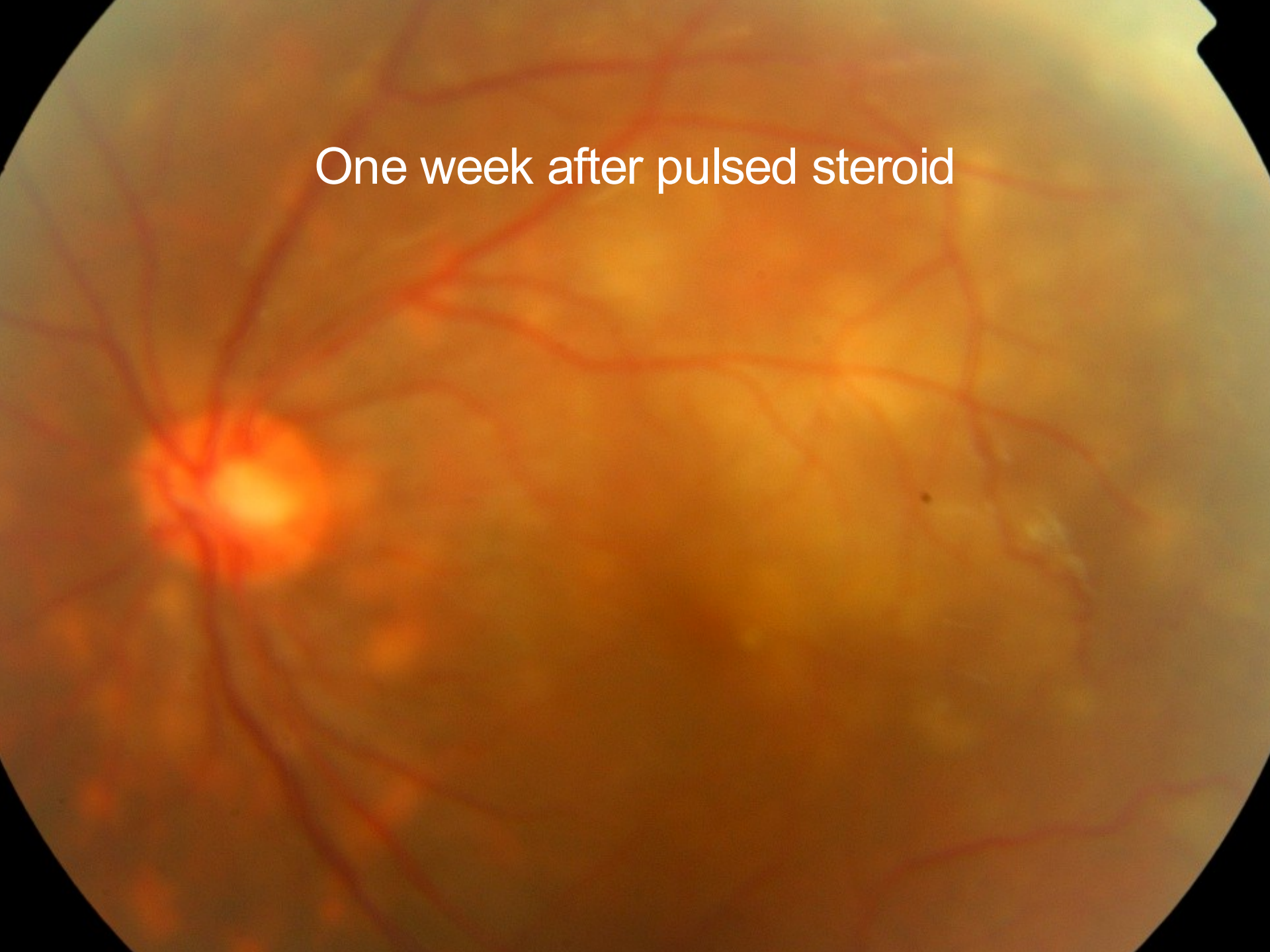
- Ocular Lymphoma ruled out

Physician Consult

- Mantoux 10 mm significant as no h/o BCG
- No other systemic focus of TB
- Standard anti-TB treatment started
- Oral steroid at 20 mg/ d
- Mycophenolate mofetil discontinued

December 29, 2008

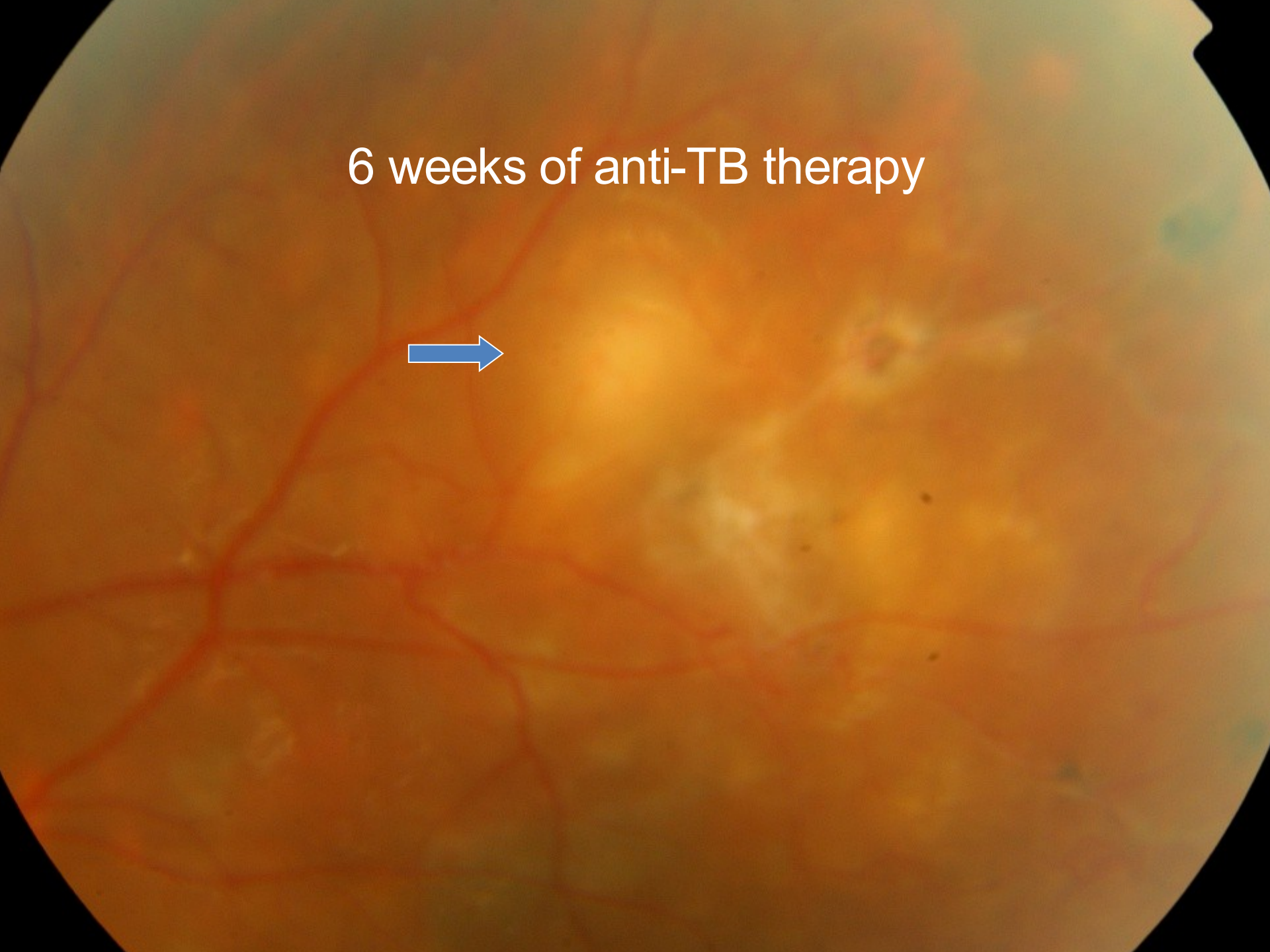
- Placed on IVMP 1 gm/ d x 5 days


One week after pulsed steroid

February 11, 2009
6 weeks of anti-TB therapy

- Choroidal lesions inactive
- Single new active choroidal lesion
- Retinal vasculitis mildly active

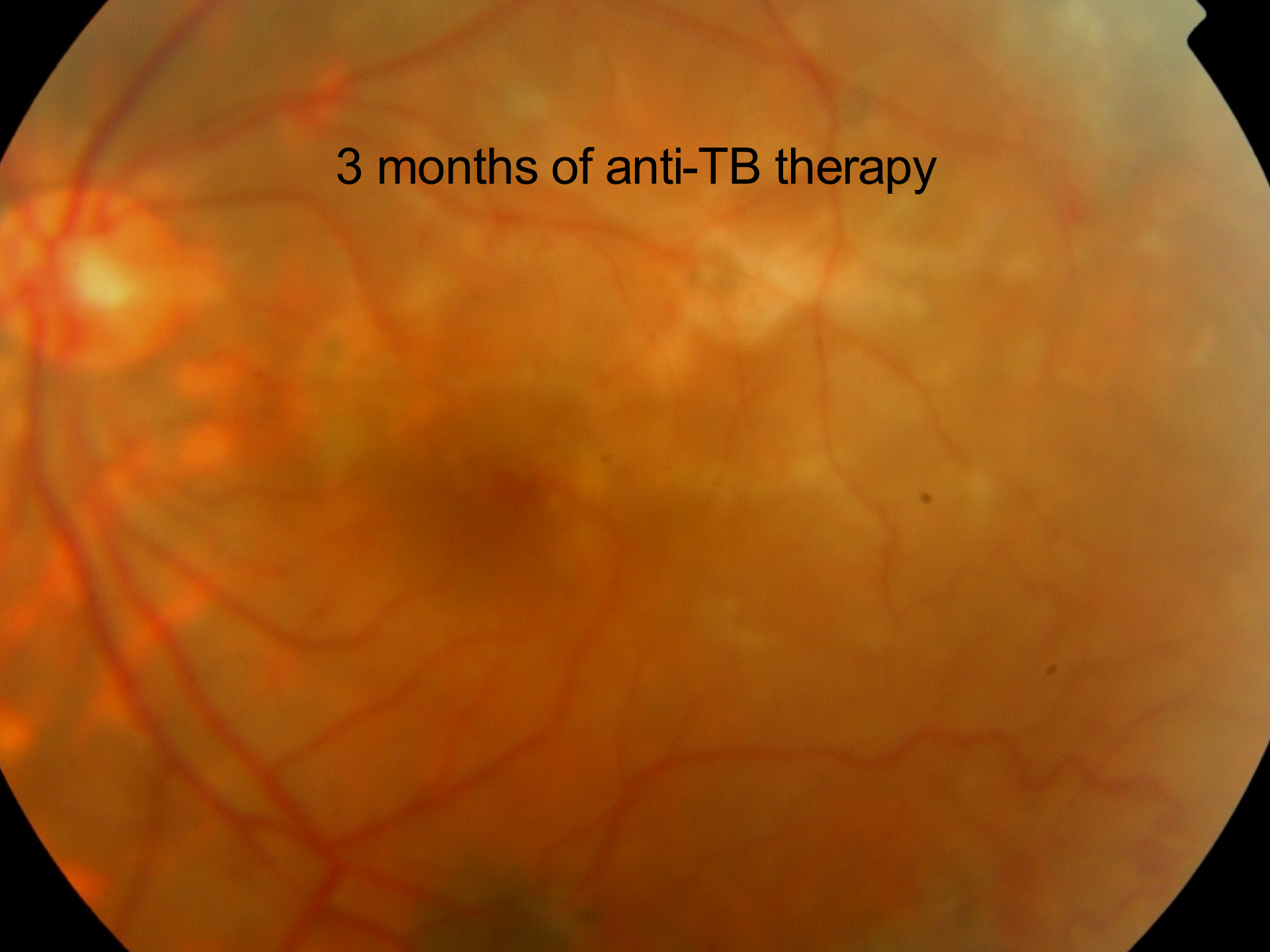

6 weeks of anti-TB therapy

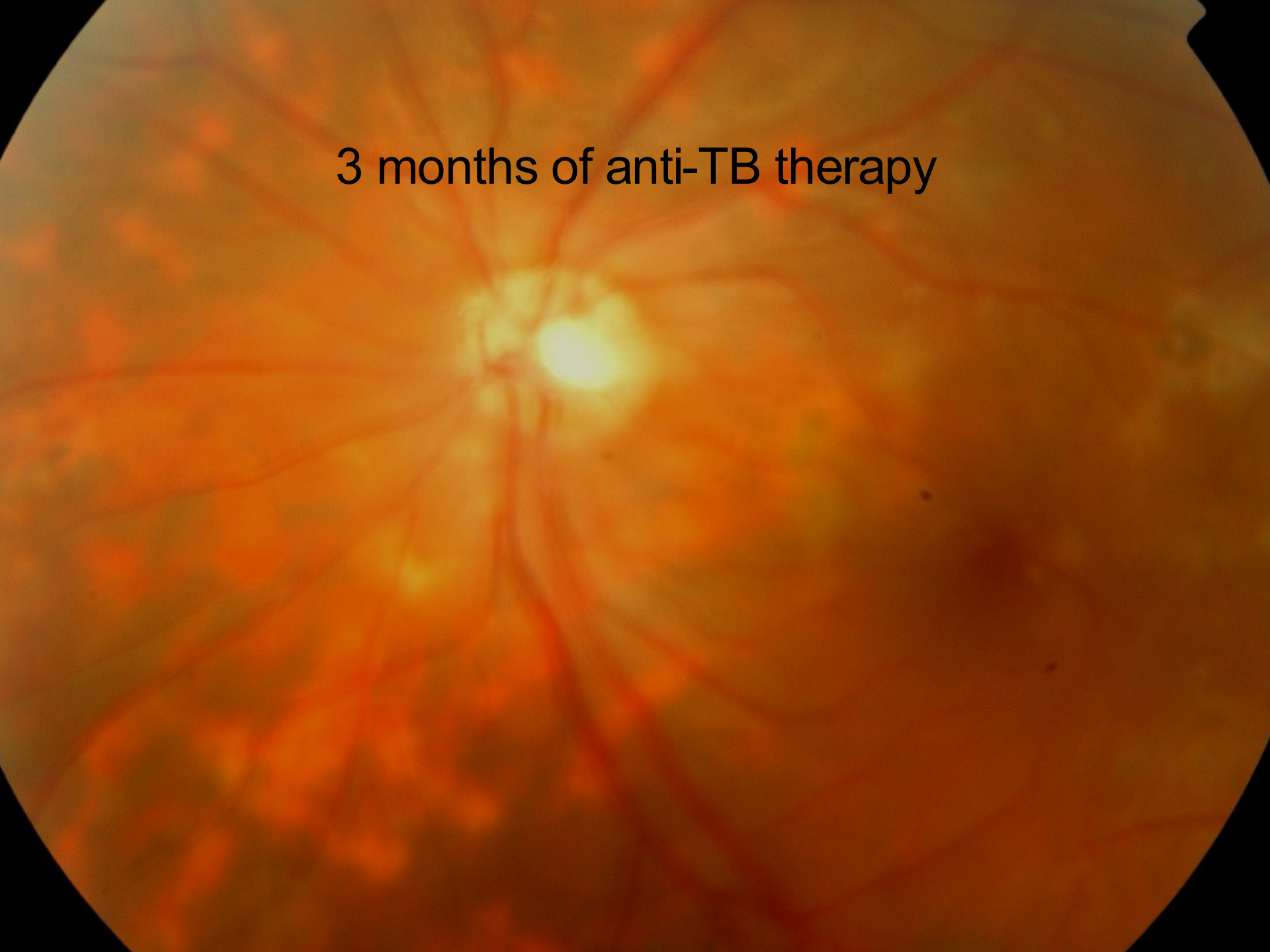

6 weeks of anti-TB therapy

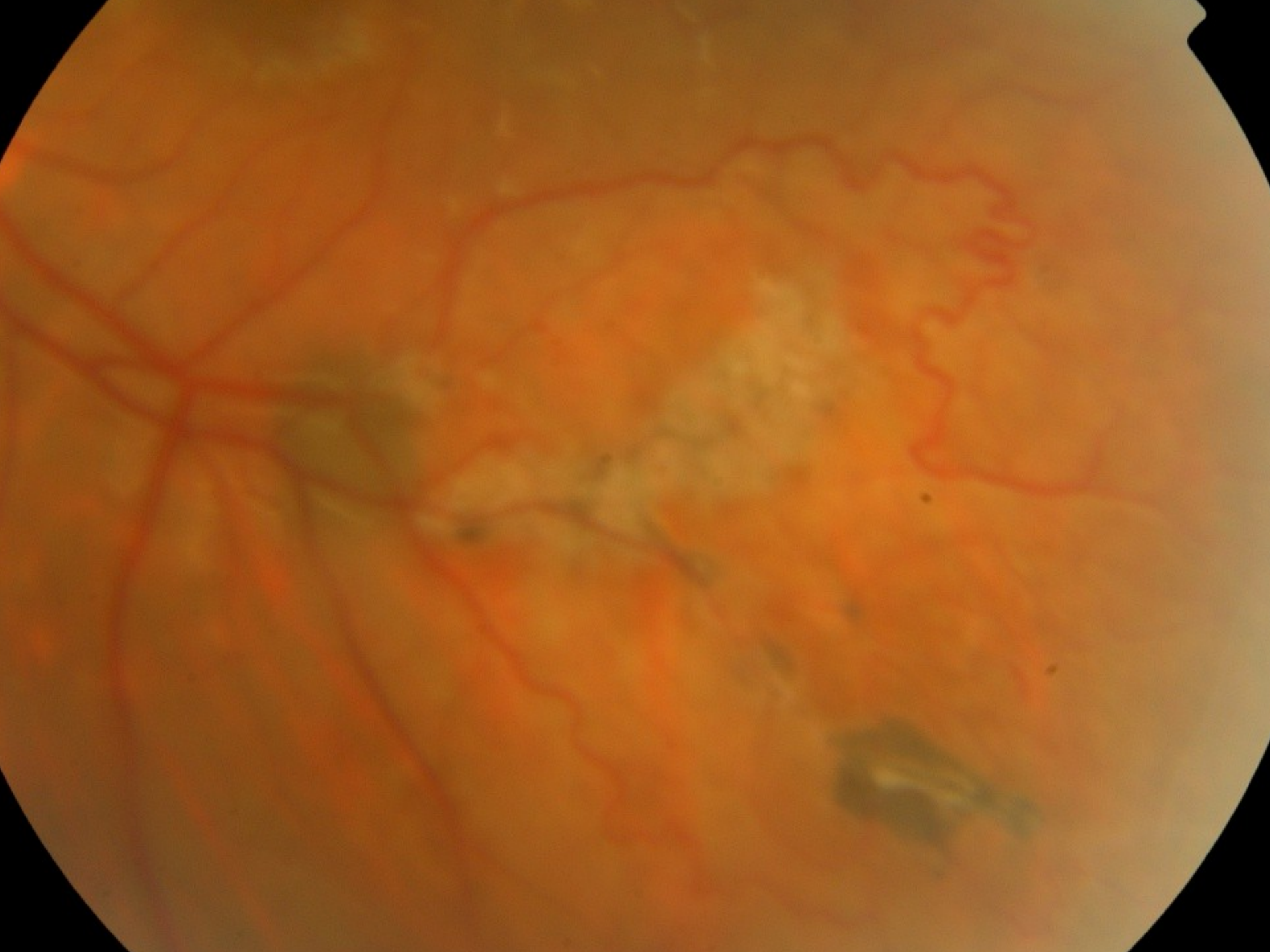
March 20, 2009
3 months of anti-TB therapy

- Iritis resolved
- Choroidal lesions inactive
- Retinal vasculitis, retinitis completely resolved
- MRI brain: granuloma resolved


3 months of anti-TB therapy

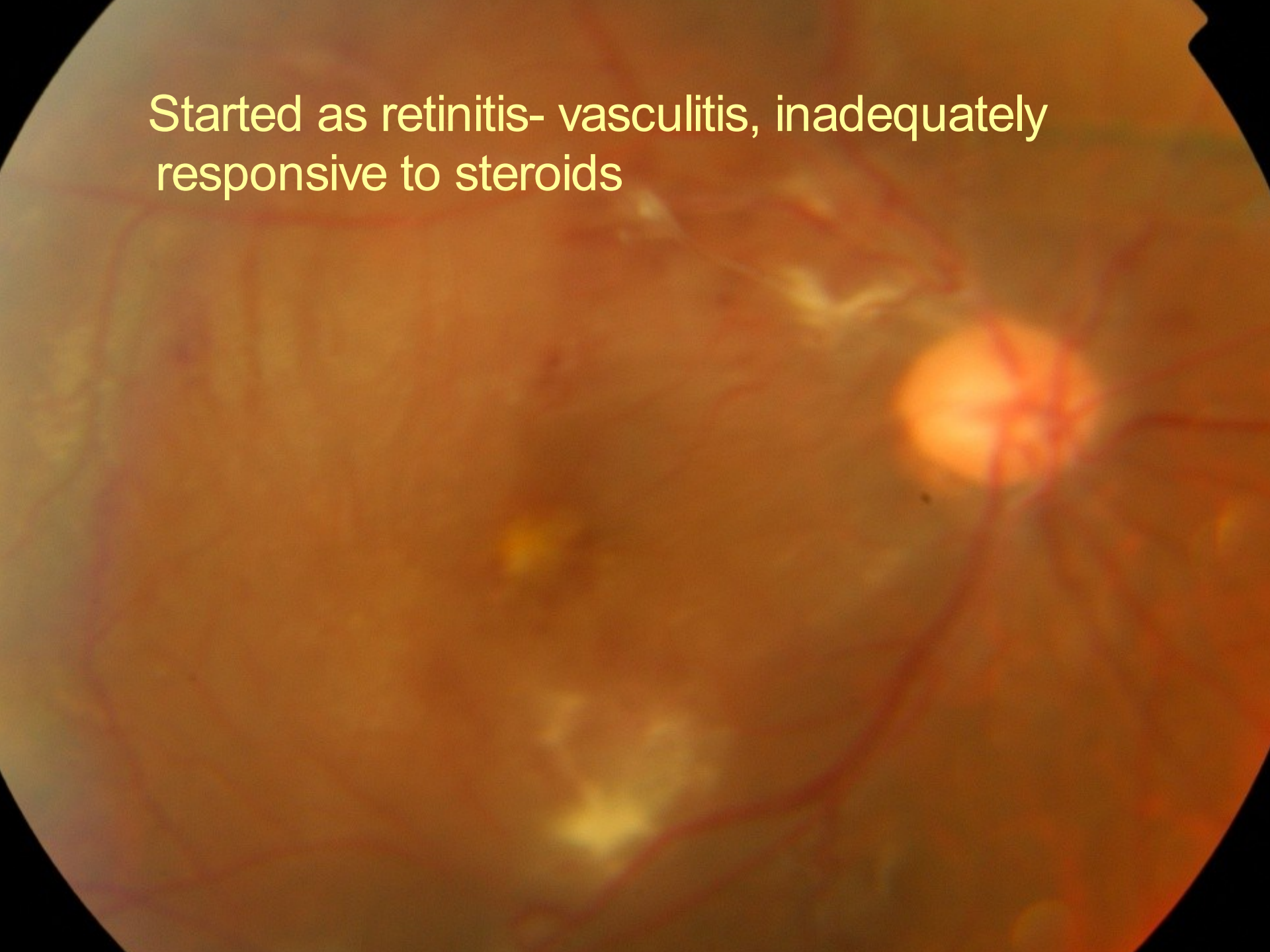

3 months of anti-TB therapy

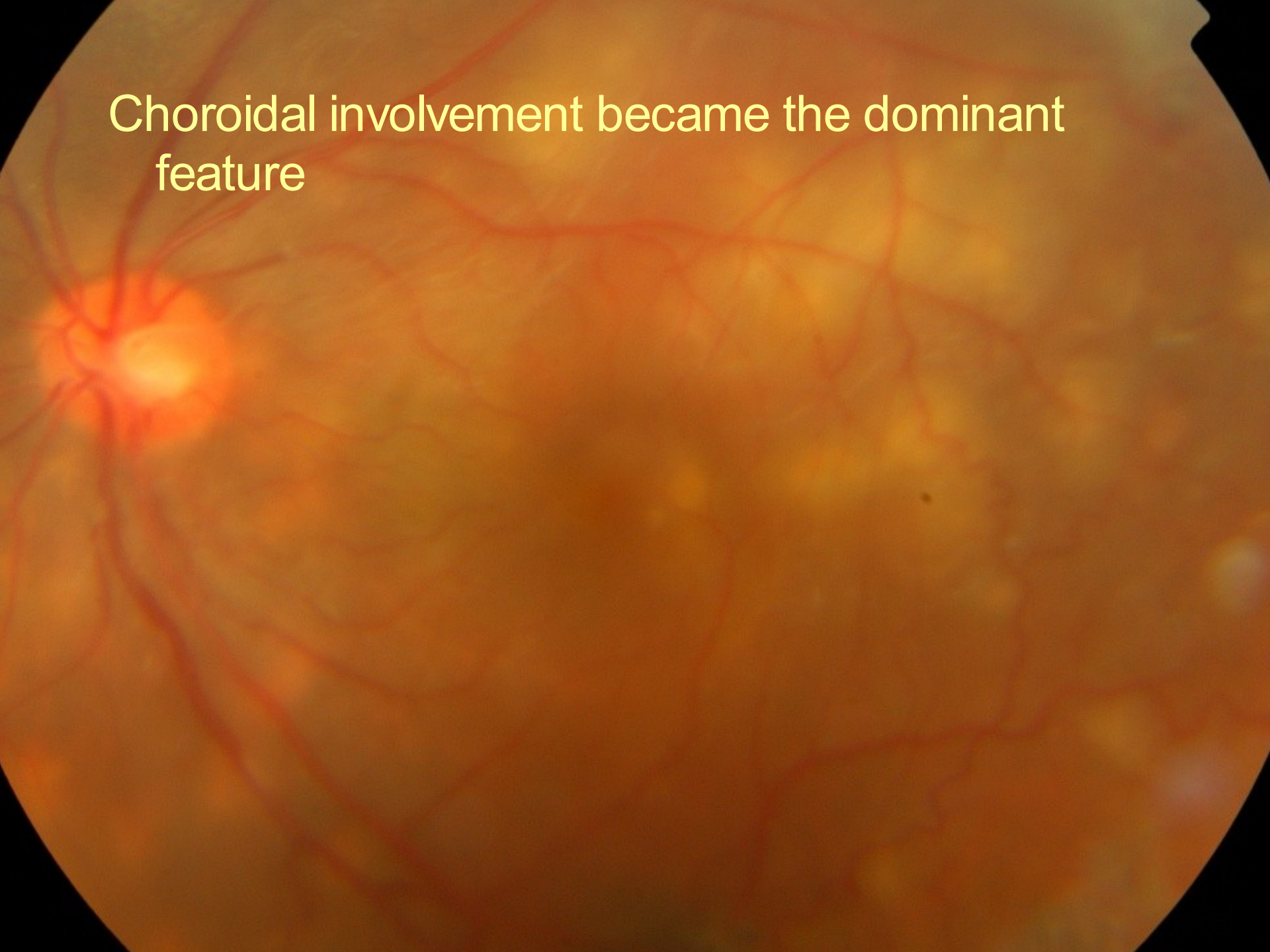

3 months of anti-TB therapy



August 16, 2009
8 months of anti-TB therapy

- Visual acuity BE 20/20
- No reactivation of uveitis

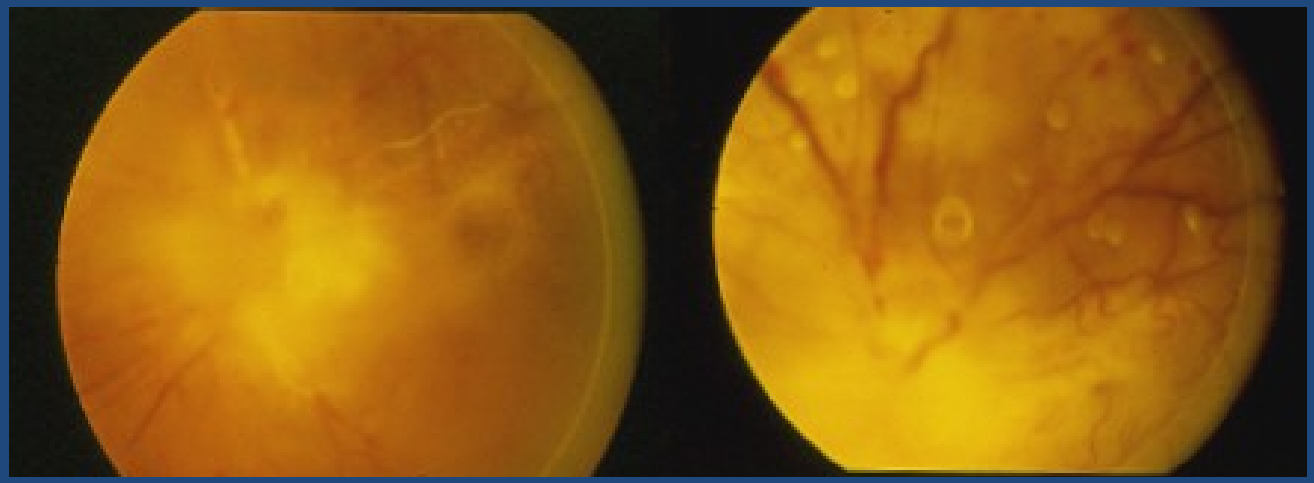

Started as retinitis- vasculitis, inadequately responsive to steroids


Choroidal involvement became the dominant feature

Masquerades

Ocular-CNS Lymphoma

- 30 year old male
- CNS Lymphoma on treatment
- Severe vitreous haze
- Subretinal deposits
- LE CRVO, no LP

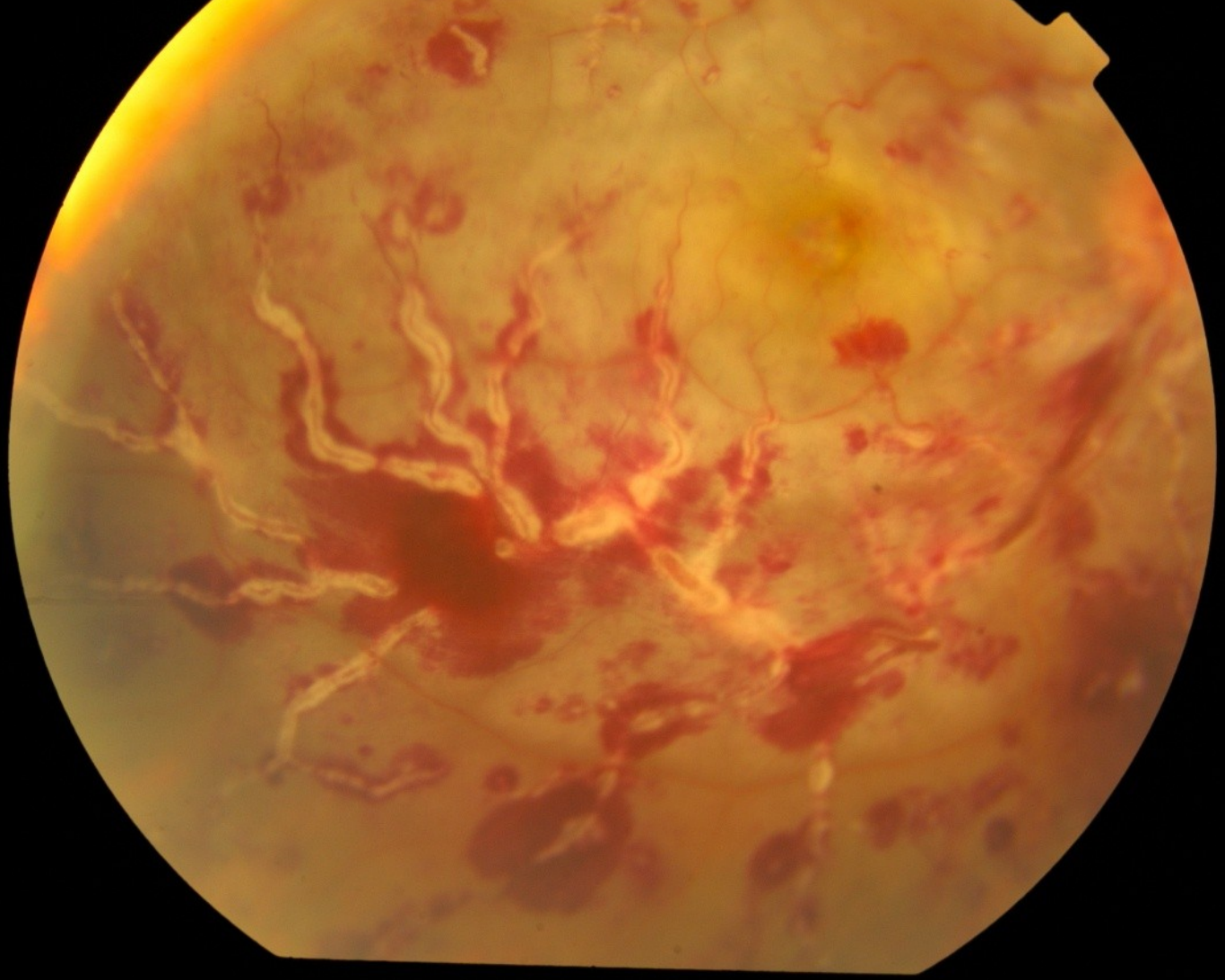


Case

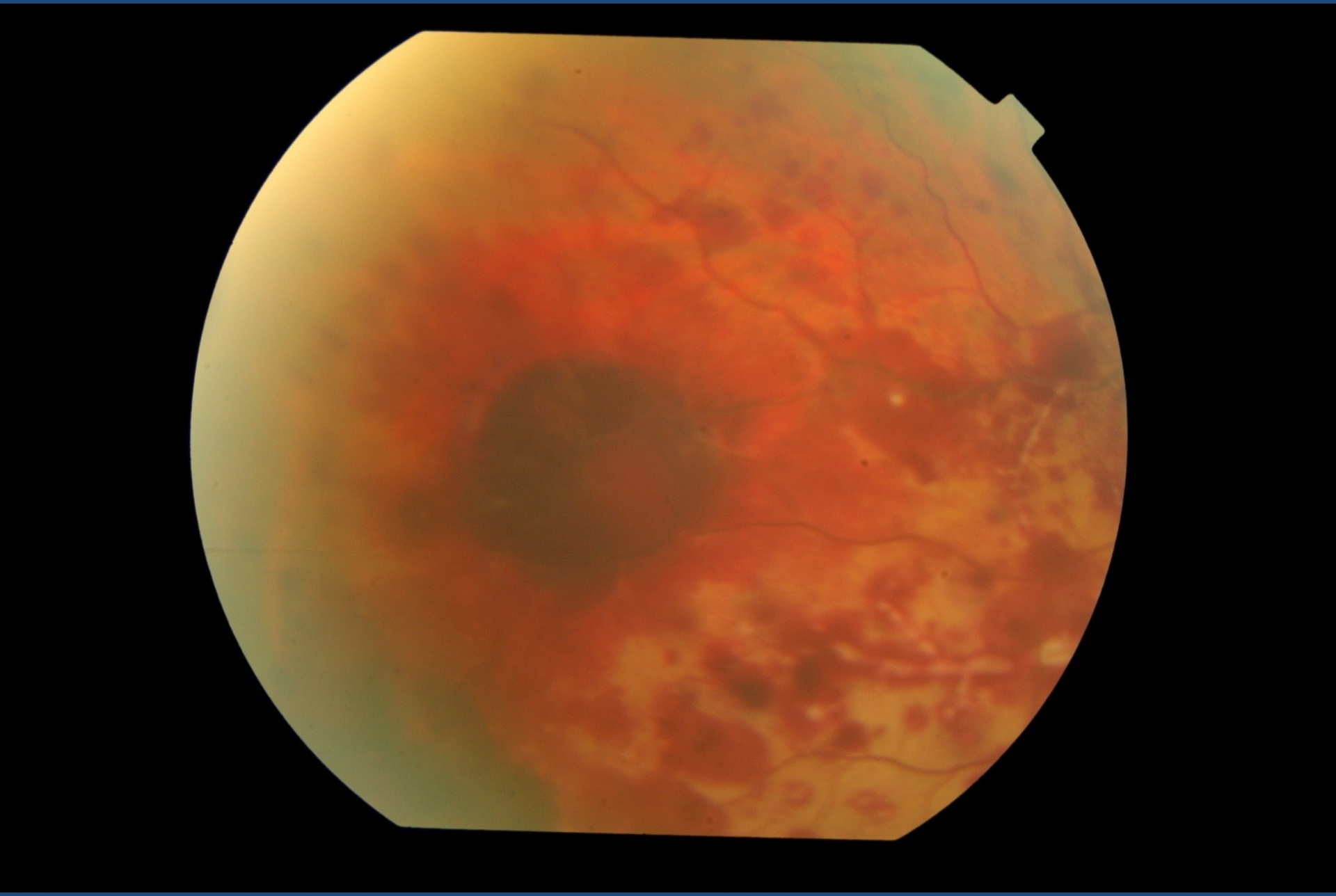
- 26 yo lady
- RE sudden vision loss

CRVO

Perivascular infiltrates



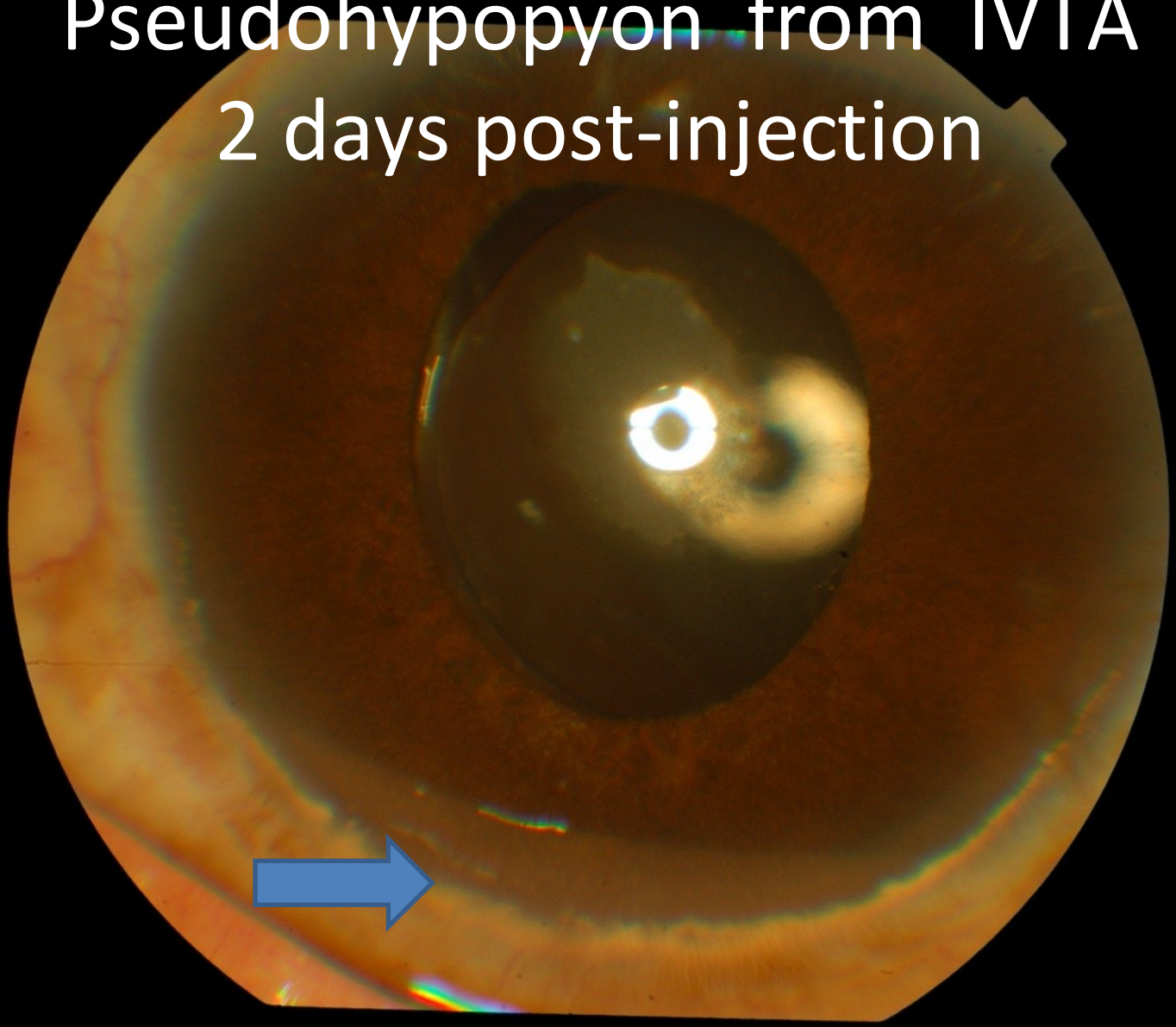
Roth Spots



Investigations

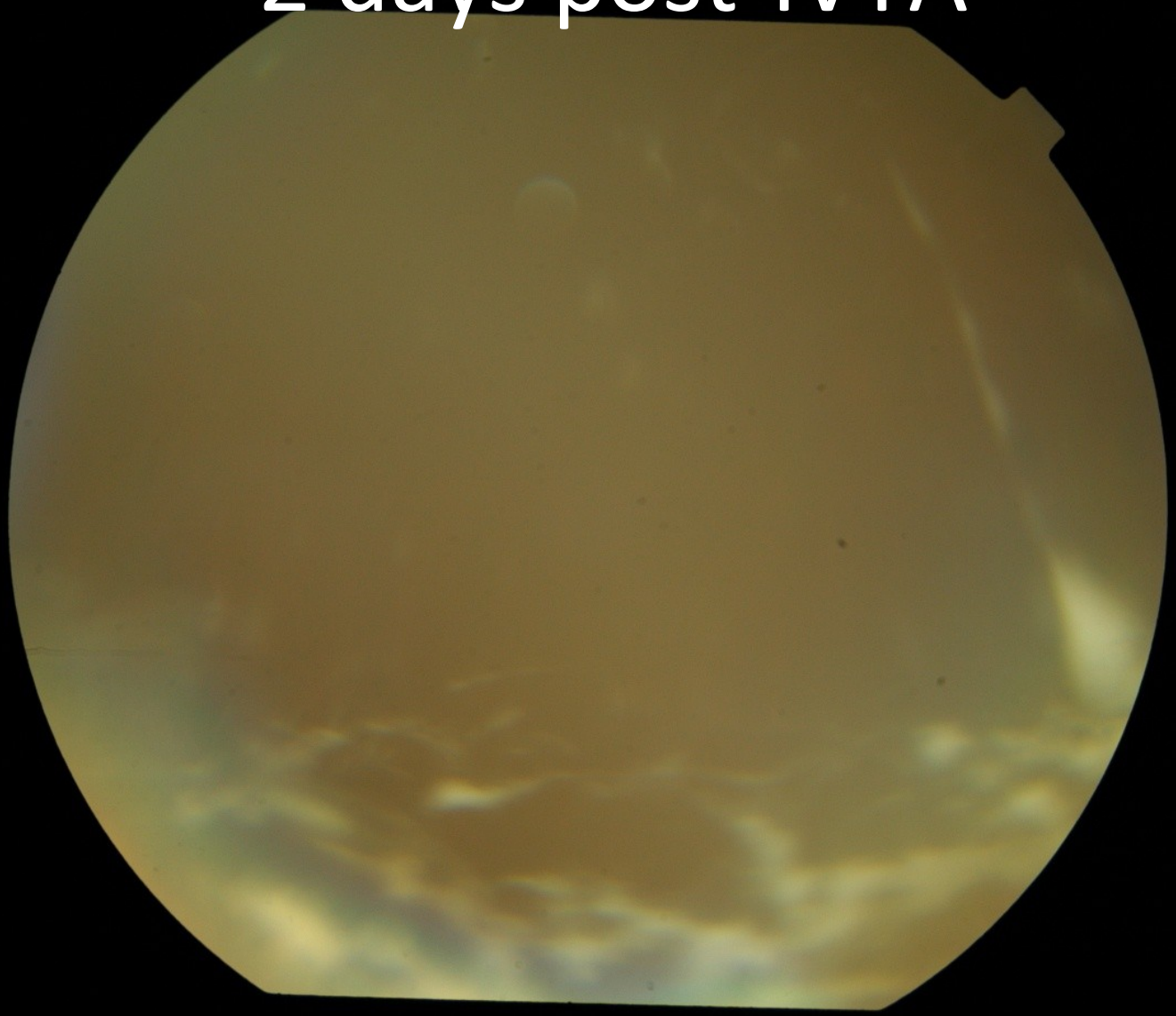
- Blood Picture
- Haemato-oncology consult
- Severe Anaemia (Hb 6.1 g%)
- Lymph nodes enlarged: biopsy result awaited

Pseudohypopyon from IVTA
2 days post-injection



2 days post-IVTA

2 days post-IVTA



Thank you!