

## CPDO Examination - Sample Patient Case 1

### Demographics

21-year-old black male; college student

### Chief complaint

red, painful eye

### History of present illness

**Character/signs/symptoms:** hyperemia; pain

**Location:** OS

**Severity:** severe

**Nature of onset:** gradual, worsening

**Duration:** 2 days

**Frequency:** constant

**Exacerbations/remissions:** none

**Relationship to activity or function:** none

**Accompanying signs/symptoms:** blurred vision; light sensitivity

### Secondary complaints/symptoms

none

### Patient ocular history

extended SCL wear x 5 years without a disinfecting system; sleeps in the lenses; replaces them every 3 months

### Family ocular history

father: uses glasses when reading

### Patient medical history

migraine headaches

### Medications used by patient

Aleve®; Imitrex®

### Patient allergy history

NKMA

### Family medical history

father: sickle cell trait

### Review of systems

**Constitutional/general health:** excellent

**Ear/nose/throat:** denies

**Cardiovascular:** denies

**Pulmonary:** denies

**Endocrine:** denies

**Dermatological:** denies

**Gastrointestinal:** denies

**Genitourinary:** denies

**Musculoskeletal:** denies

**Neurologic:** denies

**Psychiatric:** denies

**Immunologic:** denies

**Hematologic:** denies

### Mental status

**Orientation:** oriented to time, place, and person

**Mood:** appropriate

**Affect:** appropriate

## Clinical findings

**BVA:** Distance  
OD: 20/25  
OS: 20/40

**Pupils:** PERRL, negative RAPD

**EOMs:** full, no restrictions OD, OS

**Confrontation fields:** FTFC OD, OS

### Slit lamp:

lids/lashes/adnexa: unremarkable OD, mild lid swelling OS

conjunctiva: normal OD, 3+ diffuse injection OS

cornea: clear OD; see **Image 1** OS, 4 mm area of dense fluorescein staining OS

anterior chamber: deep and quiet OD, see **Image 2** OS

iris: normal OD, OS

lens: clear OD, OS

vitreous: clear OD, OS

**IOPs:** 15 mmHg OD, 10 mmHg OS @ 10:40 a.m. by non-contact tonometry

### Fundus OD:

C/D, macula, posterior pole: see **Image 3**

periphery: unremarkable

### Fundus OS:

C/D, macula, posterior pole: see **Image 4**

periphery: unremarkable

**Blood pressure:** 122/76 mmHg, right arm, sitting

**Pulse:** 82 bpm, regular

**Body mass index:** 20.6

### Reference ranges

< 18.5 underweight  
18.5 - 24.9 normal  
25.0 - 29.9 overweight  
> 30.0 obese

### Laboratory tests:

	<u>Results</u>	<u>Reference ranges</u>
Glucose	74 mg/dL	65 - 115 (fasting)
Urea nitrogen	7 mg/dL	5 - 24
Creatinine	0.9 mg/dL	0.7 - 1.4
Sodium	140 meq/L	136 - 146
Potassium	4.4 meq/L	3.7 - 5.3
Chloride	105 meq/L	101 - 111
CO2	25 meq/L	21 - 31
Calcium	9.1 mg/dL	8.5 - 10.2
RBC	5.3 M/ $\mu$ L	4.5 - 5.9 (male)
Hgb	16.2 g/dL	13.5 - 17.5 (male)
Hct	48%	42 - 54 (male)
MCV	91 fL	80 - 103
MCH	31 pg	26 - 34
MCHC	34 g/dL	30 - 37
RDW-CV	12.2%	11.5 - 14.5

WBC	5.5 K/ $\mu$ L	3.9 - 11.0
Neutrophil	60%	49 - 78
Lymphocyte	33%	20 - 45
Monocyte	4.2%	3.0 - 9.5
Eosinophil	2.2%	0.0 - 4.0
Basophil	0.6%	0.0 - 3.0
Platelet	156 K/ $\mu$ L	130 - 400
MPV	8.9 fL	7.4 - 12.0

**Image 1: OS**



**Image 2: OS**

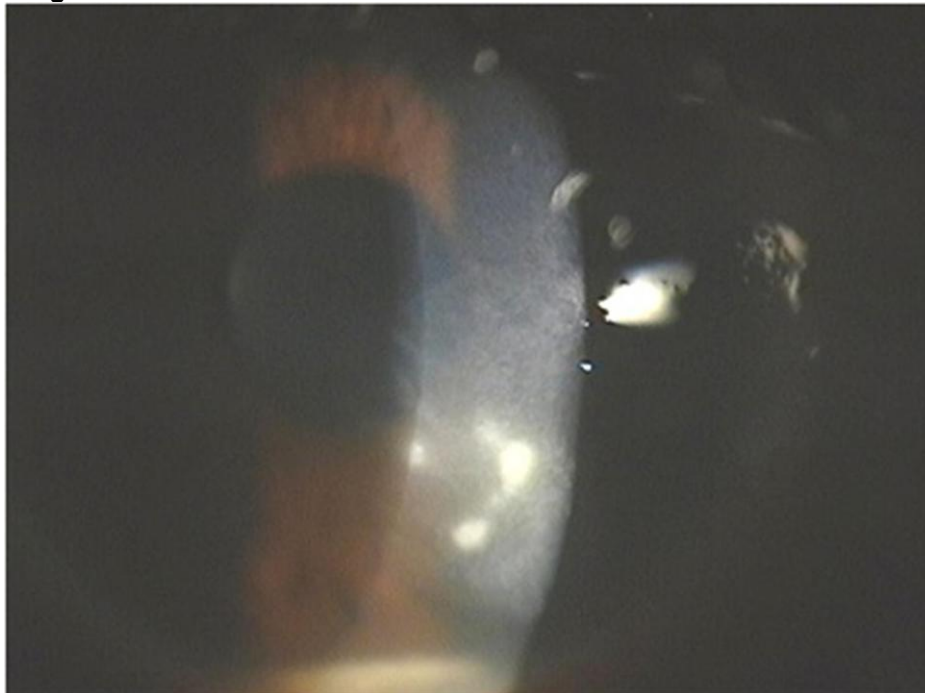


Image 3

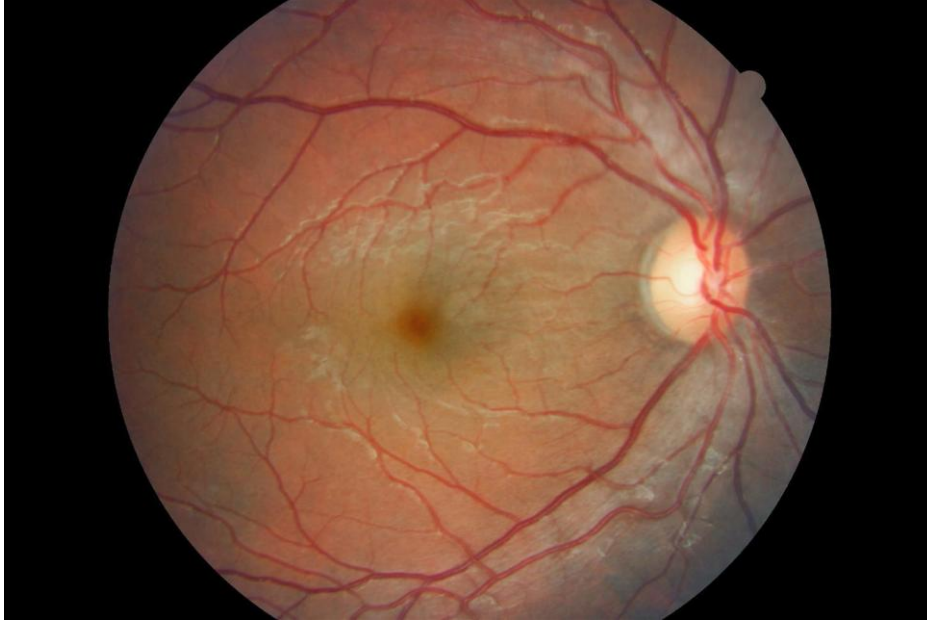


Image 4



1. Which of the following is the most likely diagnosis?

*(Item type - Diagnosis)*

- a. Bacterial keratitis
- b. Epidemic keratoconjunctivitis
- c. Fungal keratitis
- d. Herpes simplex keratitis
- e. Syphilitic interstitial keratitis
- f. Herpes zoster keratitis

2. Given this patient's history, which of the following is most commonly associated with this condition?

*(Item type - Clinical Correlation of Basic Science Principles)*

- a. Herpes simplex virus
- b. Herpes zoster virus
- c. *Treponema pallidum*
- d. *Fusarium* species
- e. *Pseudomonas aeruginosa*
- f. Adenovirus

3. Which of the following is the most appropriate initial management for this patient?

*(Item type - Treatment/Management)*

- a. Ganciclovir gel
- b. Acyclovir po
- c. Loteprednol 0.5% ophth susp
- d. Natamycin gtt
- e. Besifloxacin ophth susp
- f. Penicillin po

4. Which 3 of the following would serve as the best indicators that the treatment for this condition is effective? (Select 3 answer options)

*(Item type - Related to Treatment/Management)*

- a. Reduced intraocular pressure
- b. Diminished corneal neovascularization
- c. Diminished branching lesions
- d. Decreased density of stromal infiltrate
- e. Decreased anterior chamber depth
- f. Decreased anterior chamber reaction
- g. Decreased severity of pain

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## CPDO Examination - Sample Patient Case 2

### Demographics

66-year-old Hispanic male; electrician

### Chief complaint

blurry vision

### History of present illness

**Character/signs/symptoms:** blurred vision with shadows

**Location:** OS

**Severity:** moderate

**Nature of onset:** sudden

**Duration:** 5 days

**Frequency:** constant

**Exacerbations/remissions:** worse in the morning

**Relationship to activity or function:** worsens in prone position

**Accompanying signs/symptoms:** dark spot in superior vision

### Secondary complaints/symptoms

fluctuating vision x 1 year in both eyes

### Patient ocular history

metallic foreign body OS 10 years ago

### Family ocular history

mother: macular degeneration

father: glaucoma

### Patient medical history

type 2 DM x 28 years; HTN; erectile dysfunction; alcohol abuse; arrhythmia; smoker (half pack/day x 30 years)

### Medications used by patient

metformin; Novolin® 70/30; metoprolol; vitamin D3 supplement; sildenafil citrate; aspirin

### Patient allergy history

amoxicillin

### Family medical history

mother: diabetes; osteoporosis; hypothyroidism; antiphospholipid syndrome

father: liver cancer; hypertension; alcoholism; congestive heart failure

### Review of systems

**Constitutional/general health:** poor

**Ear/nose/throat:** denies

**Cardiovascular:** occasional palpitations

**Pulmonary:** coughing

**Endocrine:** denies

**Dermatological:** denies

**Gastrointestinal:** excessively hungry and thirsty

**Genitourinary:** frequent urination

**Musculoskeletal:** denies

**Neurologic:** denies

**Psychiatric:** denies

**Immunologic:** denies

**Hematologic:** leg bruises

### Mental status

**Orientation:** oriented to time, place, and person

**Mood:** sad

**Affect:** flat

**Clinical findings**

**BVA:** Distance  
OD: 20/30  
OS: 20/60

**Pupils:** PERRL, negative RAPD

**EOMs:** full, no restrictions

**Confrontation fields:** FTFC OD, superior constriction OS

**Slit lamp:**

lids/lashes/adnexa: unremarkable OD, OS  
conjunctiva: normal OD, OS  
cornea: arcus OD, OS  
anterior chamber: deep and quiet OD, OS  
iris: normal OD, OS  
lens: see **Image 1** OD, see **Image 2** OS  
vitreous: clear OD, OS

**IOPs:** 18 mmHg OD, 19 mmHg OS @ 12:45 p.m. by applanation tonometry

**Fundus OD:**

C/D, macula, posterior pole: see **Image 3**  
periphery: unremarkable

**Fundus OS:**

C/D, macula, posterior pole: see **Image 4**  
periphery: unremarkable

**Blood pressure:** 140/85 mmHg, right arm, sitting

**Pulse:** 80 bpm, regular

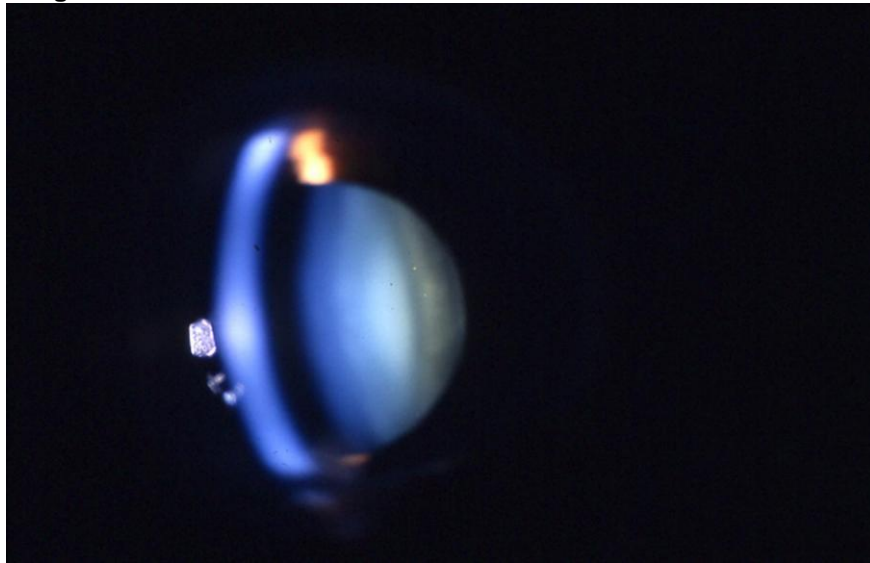
**Body mass index:** 30.3

Reference ranges  
< 18.5 underweight  
18.5 - 24.9 normal  
25.0 - 29.9 overweight  
> 30.0 obese

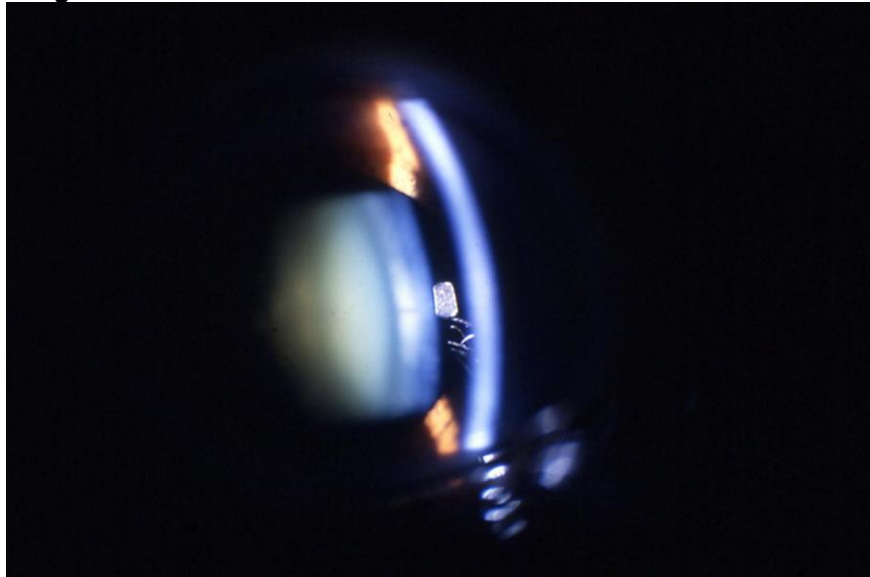
<b>Laboratory tests:</b>	<u>Results</u>	<u>Reference ranges</u>
Glucose	249 mg/dL (H)	65 - 115 (fasting)
Urea nitrogen	37 mg/dL (H)	5 - 24
Creatinine	1.6 mg/dL (H)	0.7 - 1.4
Sodium	145 meq/L	136 - 146
Potassium	3.9 meq/L	3.7 - 5.3
Chloride	109 meq/L	101 - 111
CO2	32 meq/L (H)	21 - 31
Calcium	8.7 mg/dL	8.5 - 10.2
Cholesterol	334 mg/dL (H)	< 199
Triglyceride	228 mg/dL (H)	30 - 149
HDL	35 mg/dL (L)	> 40
LDL	253 mg/dL (H)	< 130
HgbA1c	11.2% (H)	4.0 - 6.0
Microalbumin	42 mg/L (H)	< 30 (random)

RBC	4.9 M/ $\mu$ L	4.5 - 5.9 (male)
Hgb	14.1 g/dL	13.5 - 17.5 (male)
Hct	43%	42 - 54 (male)
MCV	88 fL	80 - 103
MCH	29 pg	26 - 34
MCHC	33 g/dL	30 - 37
RDW-CV	14.2%	11.5 - 14.5
WBC	6.6 K/ $\mu$ L	3.9 - 11.0
Neutrophil	59%	49 - 78
Lymphocyte	33%	20 - 45
Monocyte	5.8%	3.0 - 9.5
Eosinophil	1.9%	0.0 - 4.0
Basophil	0.3%	0.0 - 3.0
Platelet	240 K/ $\mu$ L	130 - 400
MPV	10.2 fL	7.4 - 12.0

**Image 1: OD**

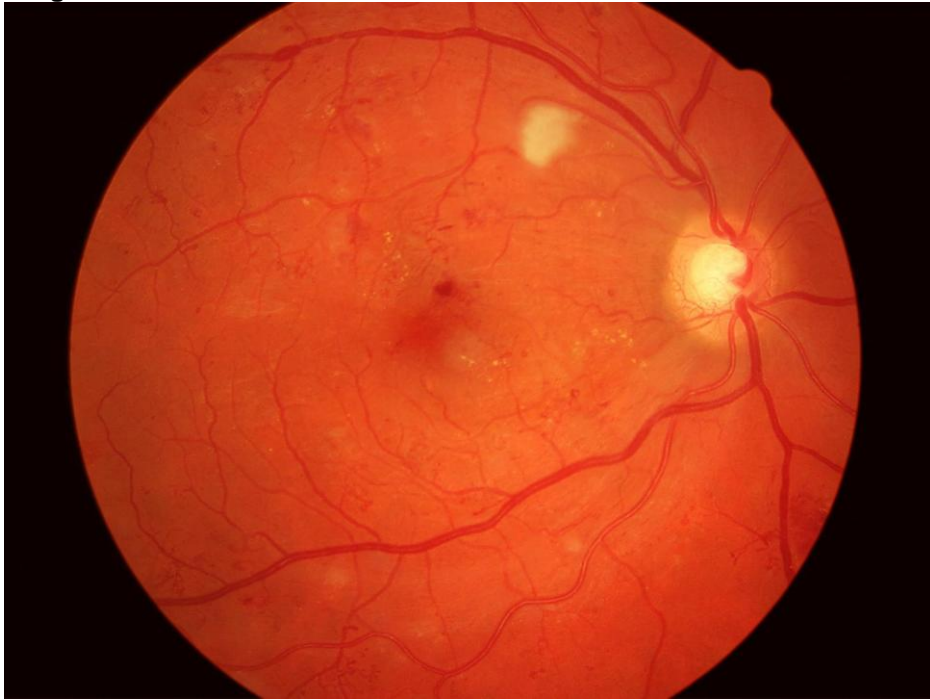


**Image 2: OS**

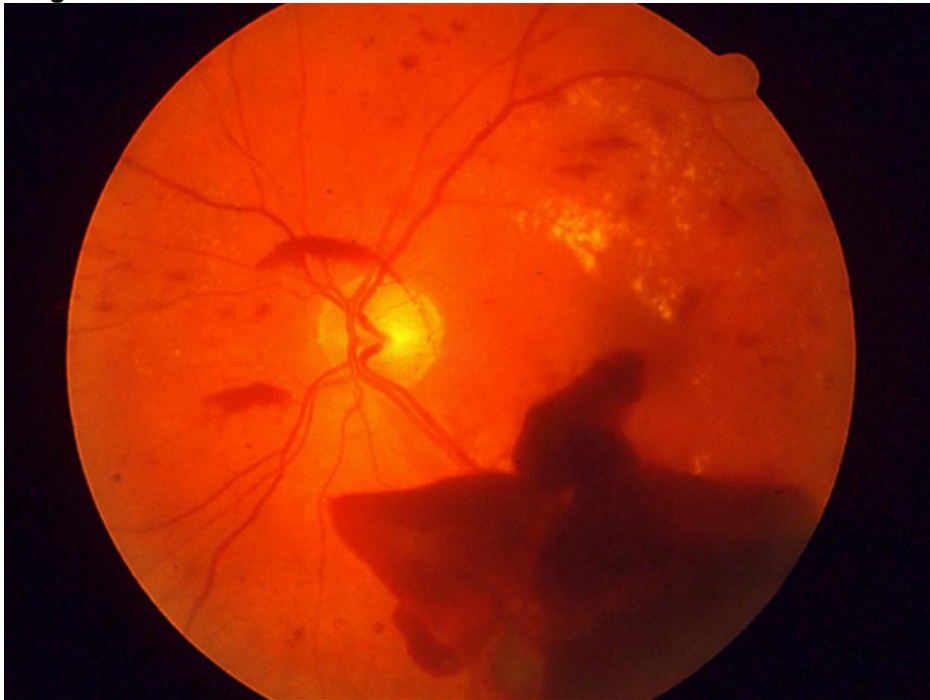




**Image 3**



**Image 4**



1. Which of the following is the most likely diagnosis for this patient's ocular condition?

*(Item type - Diagnosis)*

- a. Sick cell retinopathy
- b. Severe hypertensive retinopathy
- c. Ocular ischemic syndrome
- d. Proliferative diabetic retinopathy
- e. Ischemic central retinal vein occlusion
- f. Terson syndrome

2. Which of the following best describes the pathophysiology of this patient's ocular condition?

*(Item type - Clinical Correlation of Basic Science Principles)*

- a. Sudden rise in intracranial pressure
- b. Arterial wall thickening
- c. Blockage of venous circulation
- d. Hypoxia-induced vascular endothelial growth factor
- e. Vaso-occlusion of peripheral vessels
- f. Atherosclerotic disease of the internal carotid artery

3. This patient's vision in the left eye is worse in the morning primarily due to:

*(Item type - Clinical Correlation of Basic Science Principles)*

- a. hypoglycemia.
- b. nocturnal hypotension.
- c. gravitational pooling of the hemorrhage.
- d. lagophthalmos.
- e. subluxation of the lens.
- f. low ocular perfusion pressure.
- g. medications taken in the morning.

4. Which 2 of the following are most appropriate in the management for this patient's condition in the left eye? (Select 2 answer options)

*(Item type - Treatment/Management)*

- a. Improved blood pressure control
- b. Increase in aspirin dose
- c. Endarterectomy
- d. Vitrectomy
- e. Intravitreal pegaptanib injection
- f. Panretinal photocoagulation
- g. Folic acid supplementation
- h. Observation

## CPDO Examination - Sample Patient Case 3

### Demographics

44-year-old white female; veterinary assistant

### Chief complaint

blurry vision

### History of present illness

**Character/signs/symptoms:** hazy, cloudy vision

**Location:** OD

**Severity:** moderate

**Nature of onset:** gradual

**Duration:** 1 week

**Frequency:** constant

**Exacerbations/remissions:** none

**Relationship to activity or function:** none

**Accompanying signs/symptoms:** floaters; mild pain; photophobia

### Secondary complaints/symptoms

none

### Patient ocular history

myopia

### Family ocular history

mother: retinal detachment

father: cataract

### Patient medical history

rheumatoid arthritis x 10 years

### Medications used by patient

loratidine; flurbiprofen

### Patient allergy history

seasonal allergies; NKDA

### Family medical history

mother: thyroid disease; rheumatoid arthritis

father: heart disease

### Review of systems

**Constitutional/general health:** good

**Ear/nose/throat:** denies

**Cardiovascular:** denies

**Pulmonary:** denies

**Endocrine:** denies

**Dermatological:** denies

**Gastrointestinal:** denies

**Genitourinary:** denies

**Musculoskeletal:** minor joint pain

**Neurologic:** denies

**Psychiatric:** denies

**Immunologic:** denies

**Hematologic:** denies

### Mental status

**Orientation:** oriented to time, place, and person

**Mood:** appropriate

**Affect:** appropriate

## Clinical findings

**BVA:**            Distance            Near  
OD:            20/80            20/80  
OS:            20/20            20/20

**Pupils:** PERRL, negative RAPD

**EOMs:** full, no restrictions

**Confrontation fields:** FTFC OD, OS

### Slit lamp:

lids/lashes/adnexa: unremarkable OD, OS  
conjunctiva: mild injection OD, normal OS  
cornea: see **Image 1** OD, clear OS  
anterior chamber: 1+ cells and trace flare OD, clear OS  
iris: normal OD, OS  
lens: clear OD, OS  
vitreous: 2+ vitreous cell OD, clear OS

**IOPs:** 14 mmHg OD, 18 mmHg OS @ 3:00 p.m. by applanation tonometry

### Fundus OD:

C/D, macula, posterior pole: see **Image 2**  
periphery: see **Images 3 - 4**

### Fundus OS:

C/D, macula, posterior pole: see **Image 5**  
periphery: unremarkable

**Blood pressure:** 115/70 mmHg, right arm, sitting

**Pulse:** 65 bpm, regular

**Body mass index:** 21.7

#### Reference ranges

< 18.5            underweight  
18.5 - 24.9      normal  
25.0 - 29.9      overweight  
> 30.0            obese

### Laboratory tests:

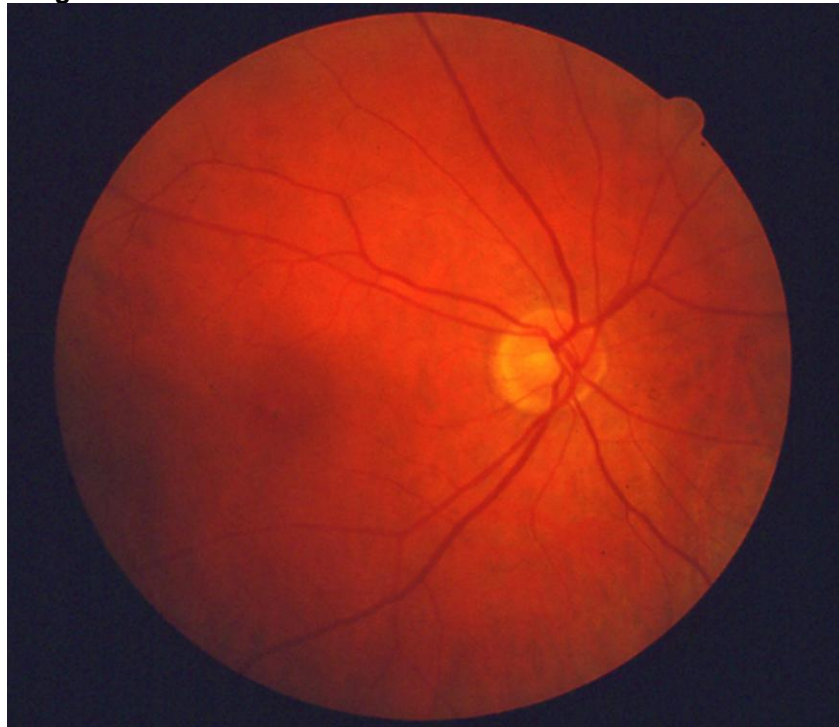
	<u>Results</u>	<u>Reference ranges</u>
Glucose	99 mg/dL	65 - 115 (fasting)
Urea nitrogen	18 mg/dL	5 - 24
Creatinine	1.1 mg/dL	0.7 - 1.4
Sodium	142 meq/L	136 - 146
Potassium	4.8 meq/L	3.7 - 5.3
Chloride	108 meq/L	101 - 111
CO <sub>2</sub>	27 meq/L	21 - 31
Calcium	9.9 mg/dL	8.5 - 10.2
Cholesterol	182 mg/dL	< 199
Triglyceride	86 mg/dL	30 - 149
HDL	51 mg/dL	> 40
LDL	114 mg/dL	< 130
RBC	4.5 M/ $\mu$ L	4.0 - 5.2 (female)
Hgb	14.1 g/dL	12.0 - 16.0 (female)
Hct	42%	37 - 47 (female)
MCV	93 fL	80 - 103
MCH	31 pg	26 - 34
MCHC	34 g/dL	30 - 37
RDW-CV	12.9%	11.5 - 14.5

WBC	9.7 K/ $\mu$ L	3.9 - 11.0
Neutrophil	65%	49 - 78
Lymphocyte	21%	20 - 45
Monocyte	7.8%	3.0 - 9.5
Eosinophil	4.5% (H)	0.0 - 4.0
Basophil	1.7%	0.0 - 3.0
Platelet	255 K/ $\mu$ L	130 - 400
MPV	9.5 fL	7.4 - 12.0

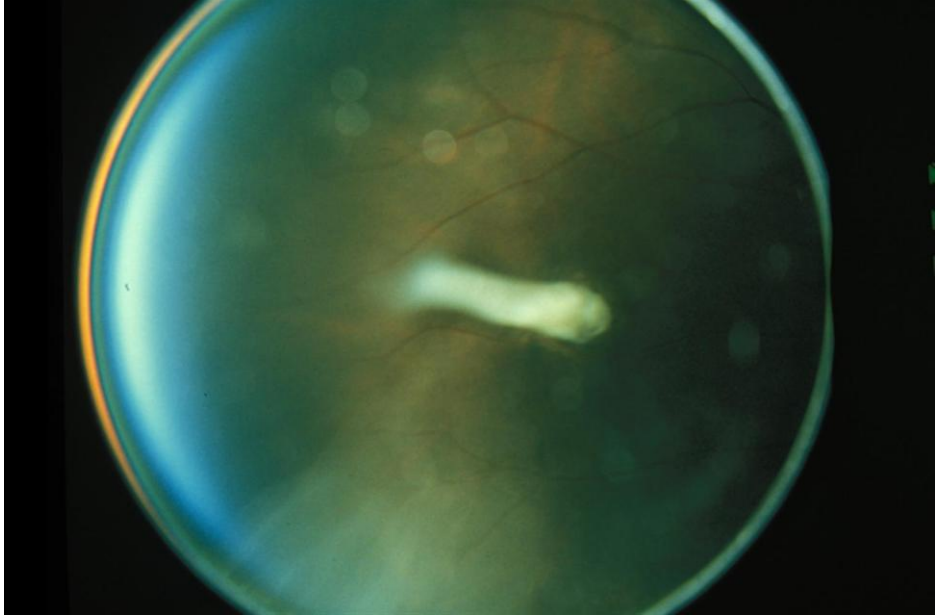
**Image 1**



**Image 2**



**Image 3: BIO OD, nasal quadrant**



**Image 4: magnified**

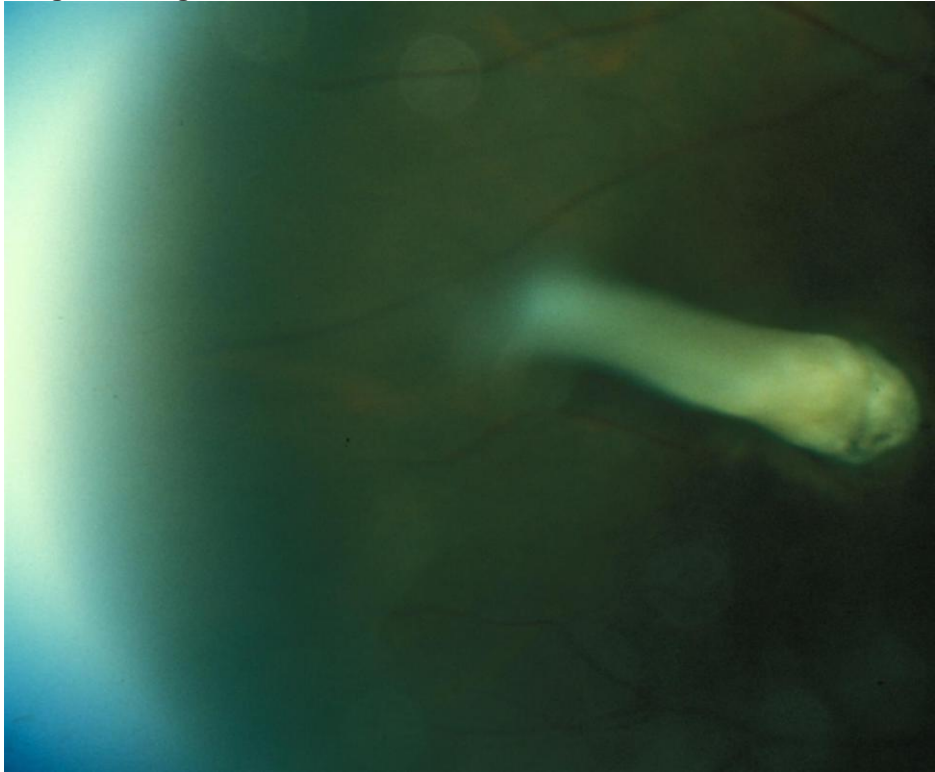
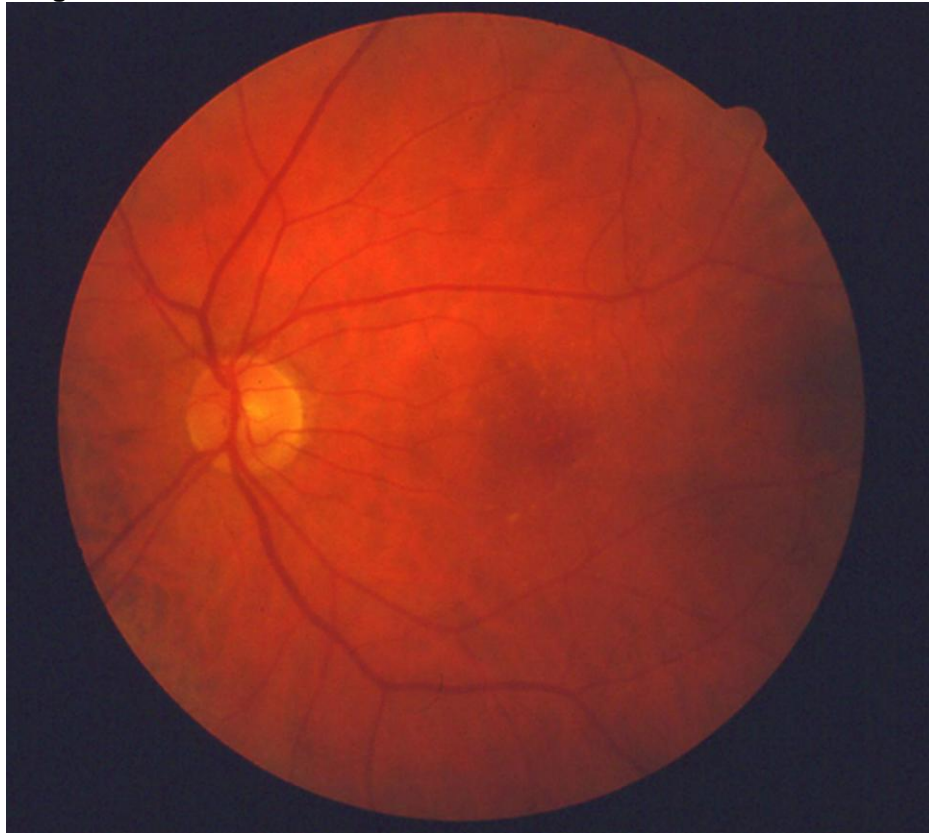


Image 5



1. The fundus findings OD are most suggestive of which of the following conditions?

*(Item type - Diagnosis)*

- a. Sickle cell retinopathy
- b. Ocular toxoplasmosis
- c. Presumed ocular histoplasmosis syndrome
- d. Sarcoid retinopathy
- e. Ocular toxocariasis
- f. Familial exudative vitreoretinopathy

2. The finding visible in *Images 3 - 4* is most consistent with:

*(Item type - Related to Diagnosis)*

- a. "sea-fan" neovascularization.
- b. chorioretinitis.
- c. a peripheral vitreoretinal granuloma.
- d. a chorioretinal scar.
- e. periphlebitis.
- f. the development of vascular exudative leakage.

3. This condition is best characterized by which of the following?  
*(Item type - Clinical Correlation of Basic Science Principles)*

- a. Genetic mutation of the hemoglobin molecule
- b. Underdeveloped retinal blood supply
- c. Infection by an obligate intracellular protozoan
- d. Ingestion of embryonated nematode eggs
- e. Ingestion of dimorphic fungi
- f. Segmental inflammation of retinal blood vessels

4. Which 2 of the following are most commonly associated with this condition?  
(Select 2 answer options)  
*(Item type - Clinical Correlation of Basic Science Principles)*

- a. Genetic defect
- b. Pica
- c. Sickling of red blood cells
- d. Transmission through the blood-placenta barrier
- e. Neovascularization
- f. Vasculopathy
- g. Consuming undercooked meat
- h. Living in endemic regions
- i. Exposure to bird droppings
- j. Exposure to dog feces

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