

# Grand Rounds

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Several sets of concentric circles, resembling ripples in water, are scattered across the bottom right portion of the slide. They are rendered in a lighter shade of blue than the background.

# HPI

- Patient is a 62 African American female who was referred to the retina service for findings noted on routine examination

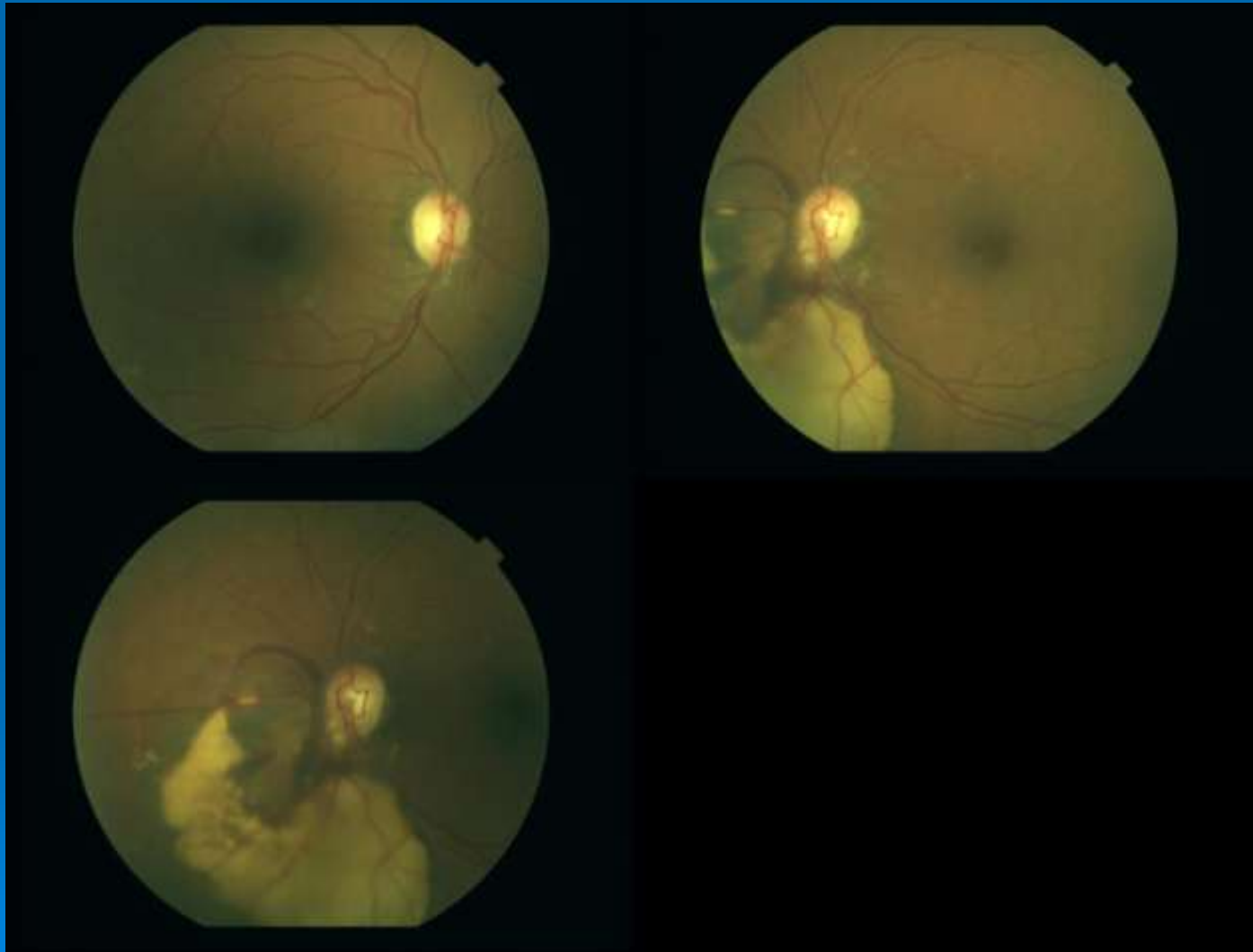
# HPI continued

- PMH: DM, HTN, Polymositis, hypercholesterolemia, Labile Blood pressure
- Medications: Reamipril, isosorbide, metoprolol, Metformin, Januvia, Lantus, Methazolamide, ASA, Prednisone, Dexamethasone
- POH: POAG
- Gtts: Cosopt, Alphagan, Xalatan
- Allergies: NKDA
- Famhx: denies blindness, glaucoma

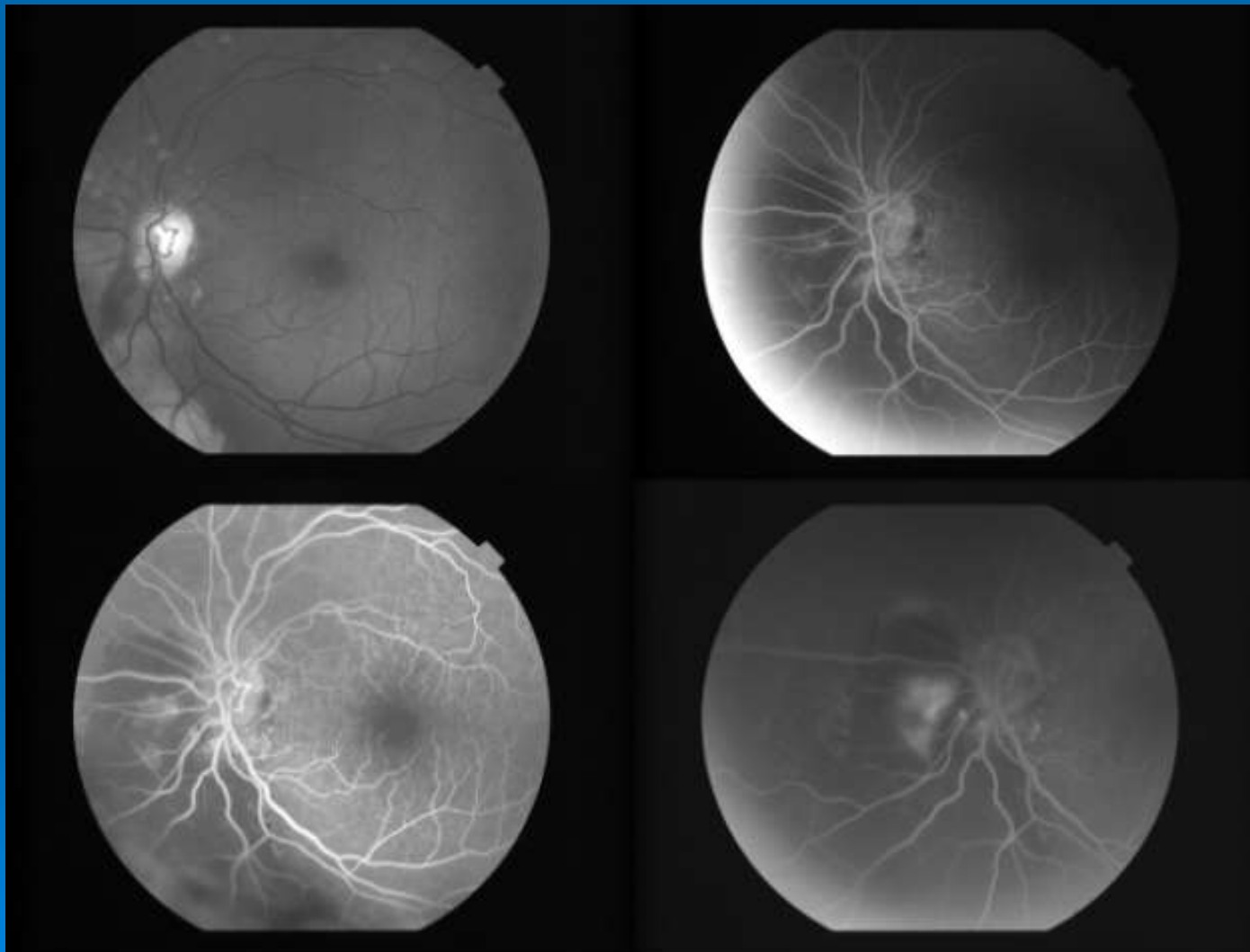
# Examination

- Dvasc: 20/25 OD, 20/25 OS
- Pupils: 4 to 2 OU, no apd
- EOM: full OU
- Tapp: 19 OU
- SLE: unremarkable

# Initial DFE



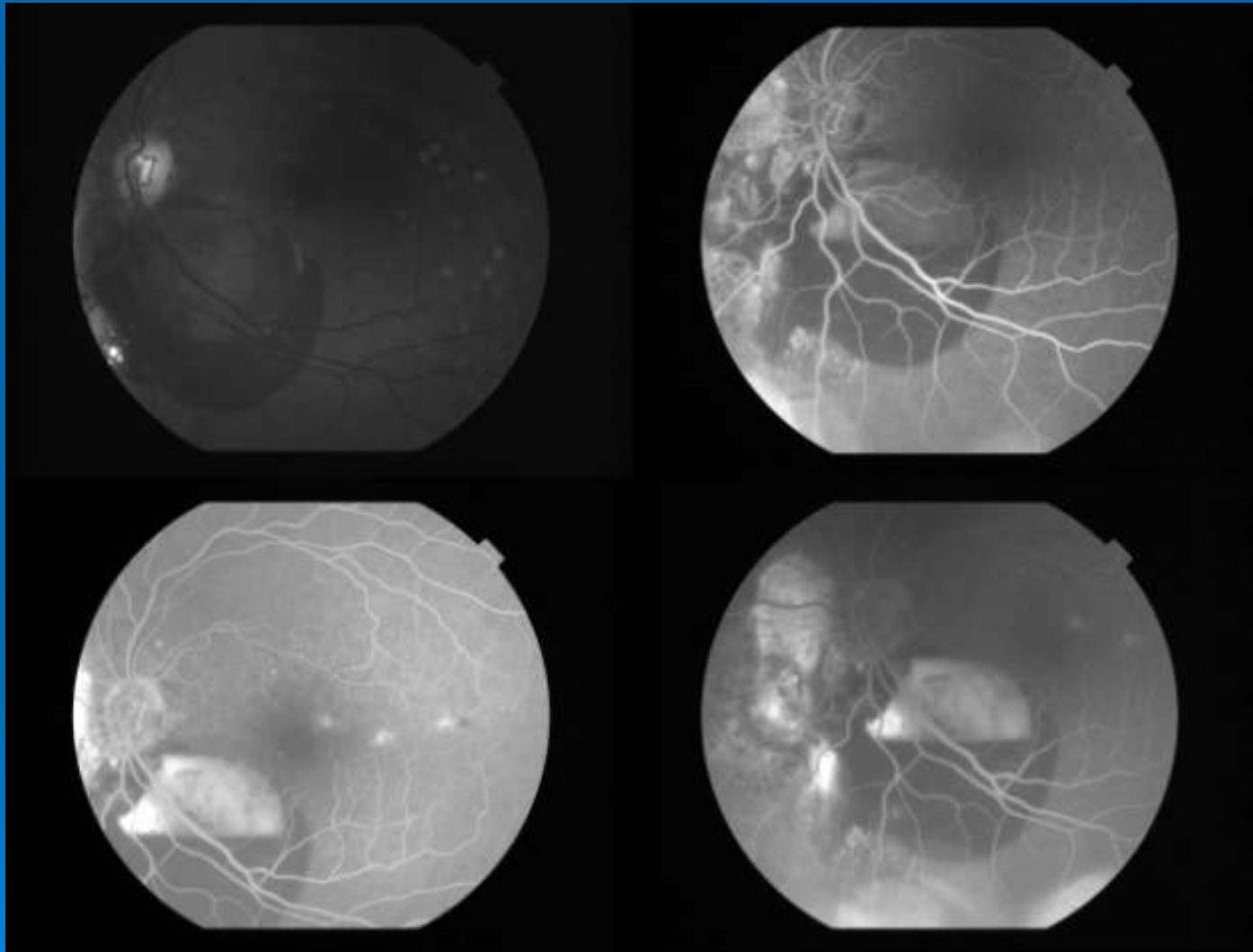
# Initial FA



# Subsequent DFE

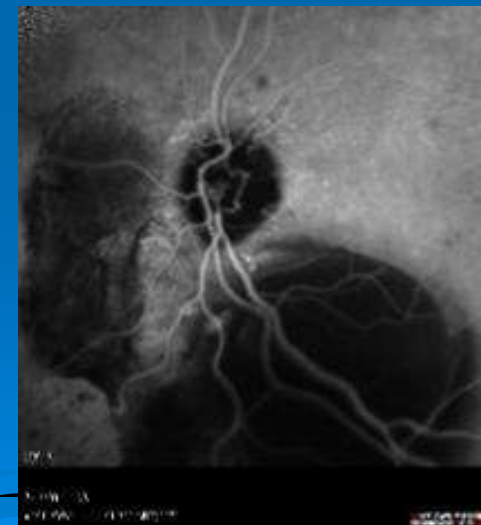
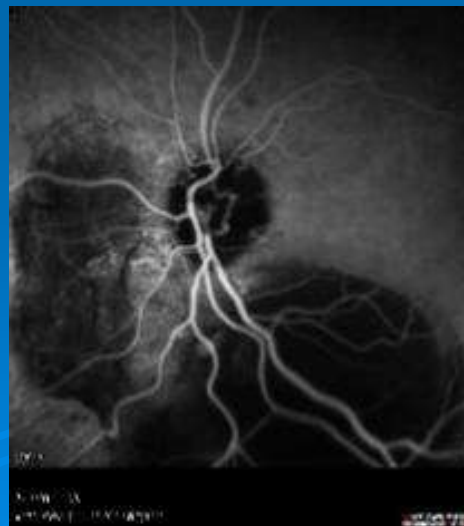
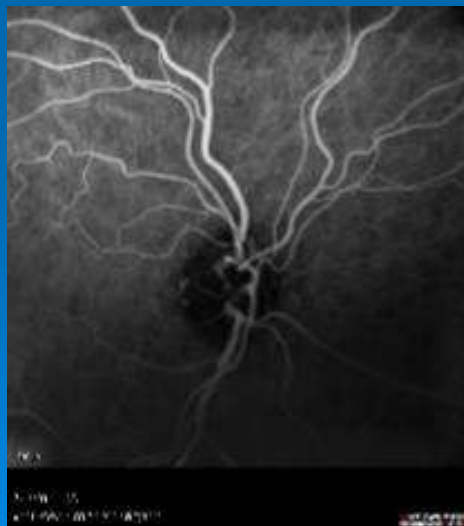
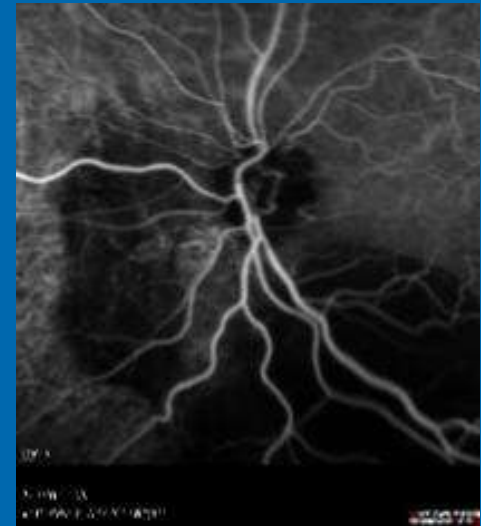


# Subsequent FA



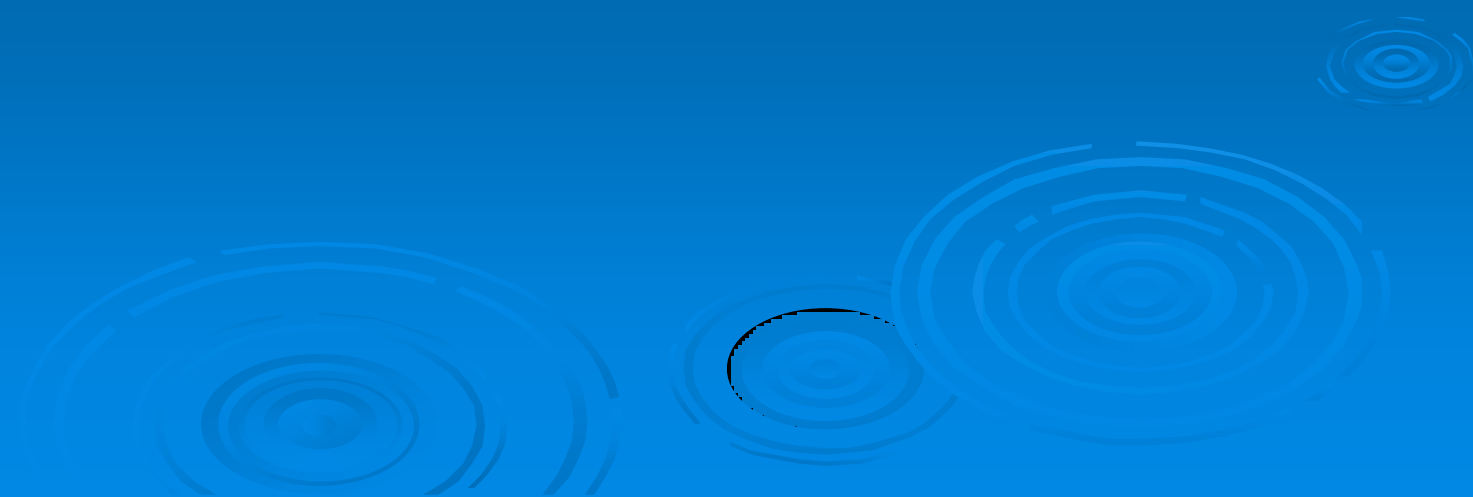


# ICG



# Differential Diagnosis

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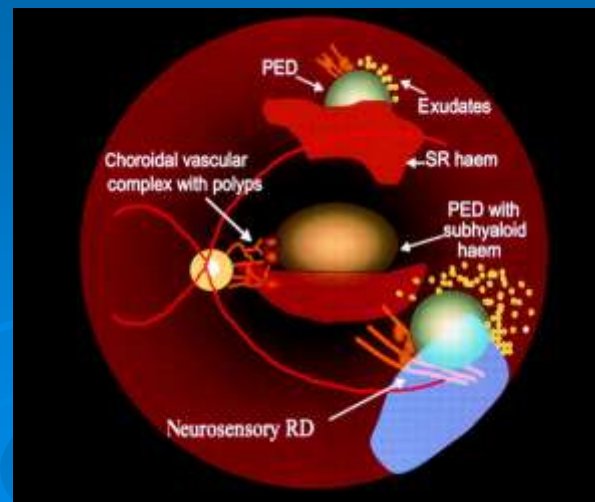


# Differential Diagnosis

- Polypoidal Choroidal Vasculopathy
- Serous Retinal Detachment
- Age-Related CNV
- Central Serous Chorioretinopathy
- Retinal Angiomatous Proliferation

# Polypoidal choroidal Vasculopathy

- Abnormality of the choroidal circulation characterized by an inner choroidal vascular network of vessels ending in an aneurysmal bulge or outward projection that appears clinically as a reddish orange, spheroid, polyp-like structure
- Associated with multiple, recurrent serosanguineous detachments of the retinal pigment epithelium and neurosensory retina secondary to leakage and bleeding from the choroidal lesion



# Epidemiology

- Individuals of African –American and Asian descendents are at highest risk
- Affects pigmented individuals: Caucasians by a ratio of 4.2 to 1
- Affects Women: Men by a ratio of 4.7:1
- Commonly diagnosed in patients between ages of 50 and 65 years of age with a range from 20 to 80
- Not associated with any systemic conditions

# Pathology

- Lesion originates in the inner choroid and consists of dilated thin-walled vessels of venular origin
- Lesions can vary in size depending on vascular channels affected; they often appear larger when they affect outer choroidal vessels and smaller when they affect the middle choroidal vasculature
- Mechanism of Lesion enlargement is unknown, three theories include:
  - Simple vessel hypertrophy
  - Conversion of lesion into advancing edge of a vascular channel
  - Unfolding of cluster of aneurysmal elements into vascular and tubular elements which is seen clinically as a subretinal mass
- Lesions are typically located in peripapillary area, but can also be found in central macula, peripheral fundus, and under temporal vascular arcade

# Natural Course

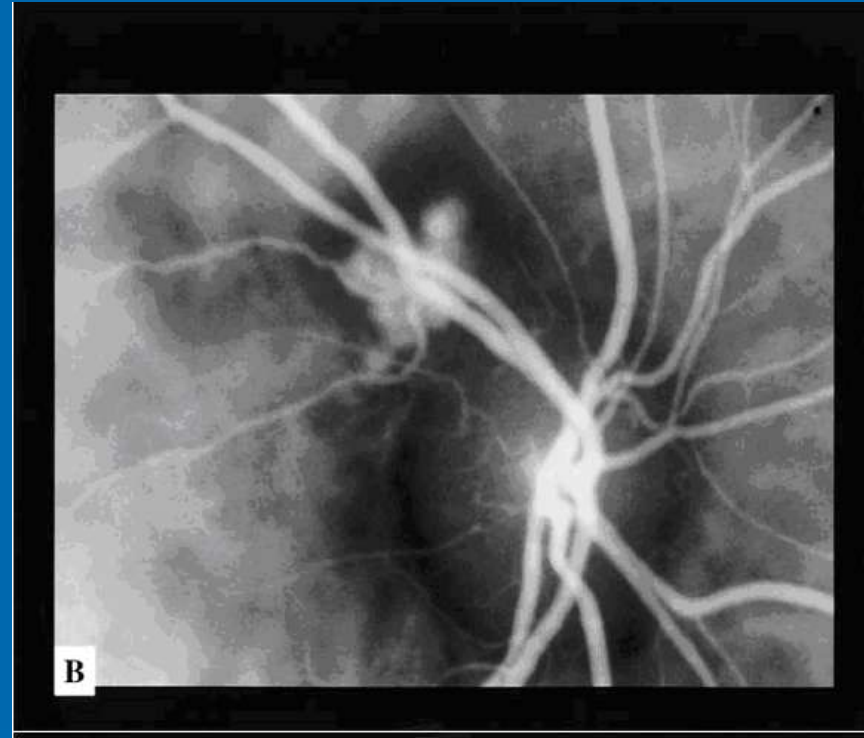
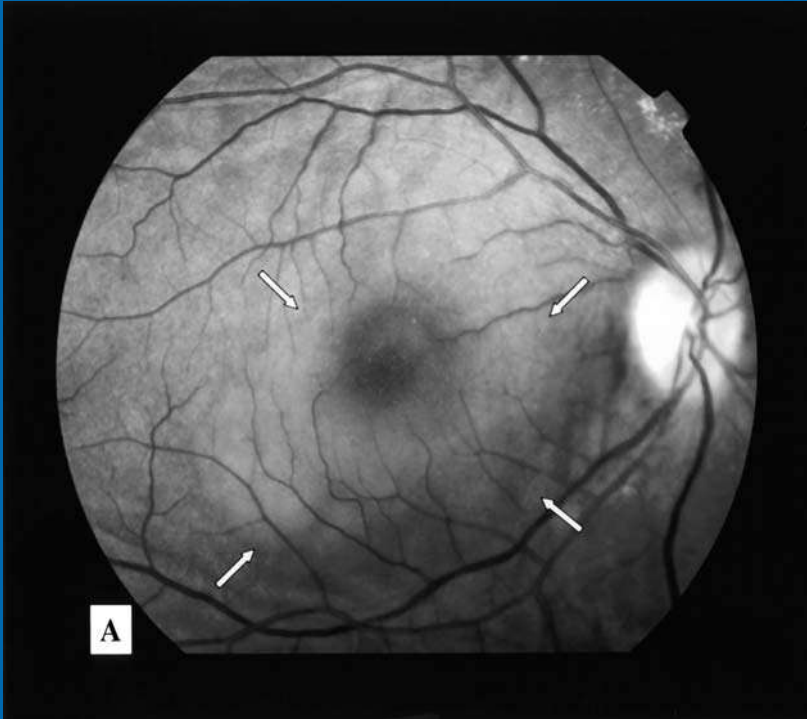
- Follows a remitting-relapsing course, associated with chronic, multiple, recurrent serosanguinous detachments of RPE and neurosensory retina
- Patients often have long term preservation of good vision because unlike AMD there is no overt fibrous proliferation to create disciform scarring

# Diagnosis

- Preferential method of diagnosis is ICG (indocyanine green) angiography
- Initial stages of ICG demonstrate filling of larger vessels of the PCV network that end in small hyperfluorescent polyps that appear smaller than lesions visible clinically
- During mid phase, size of hyperfluorescent lesions approximate size of lesions demonstrated clinically
- During the late phase of angiogram, the area surrounding the lesion becomes hyperfluorescent and the center demonstrates hypofluorescence



# ICG of a patient with PCV



A: Red free of a patient with neurosensory detachment of neurosensory retina

B: ICG shows leakage of vascular abnormality in peripapillary region responsible for neurosensory detachment

# Treatment

- No definitive treatment exists for PCV
- Thermal laser has been used to treat serous hemorrhagic manifestations of PCV
- Case reports have shown that Photodynamic therapy (PDT) using verteporfin is effective and safe in patients with subfoveal PCV, however randomized clinical trials are needed to establish efficacy and safety
- Other modalities used in the past include transpupillary thermotherapy, and low-dose external beam radiation

# Intravitreal Ranibizumab with or without photodynamic therapy for the treatment of PCV

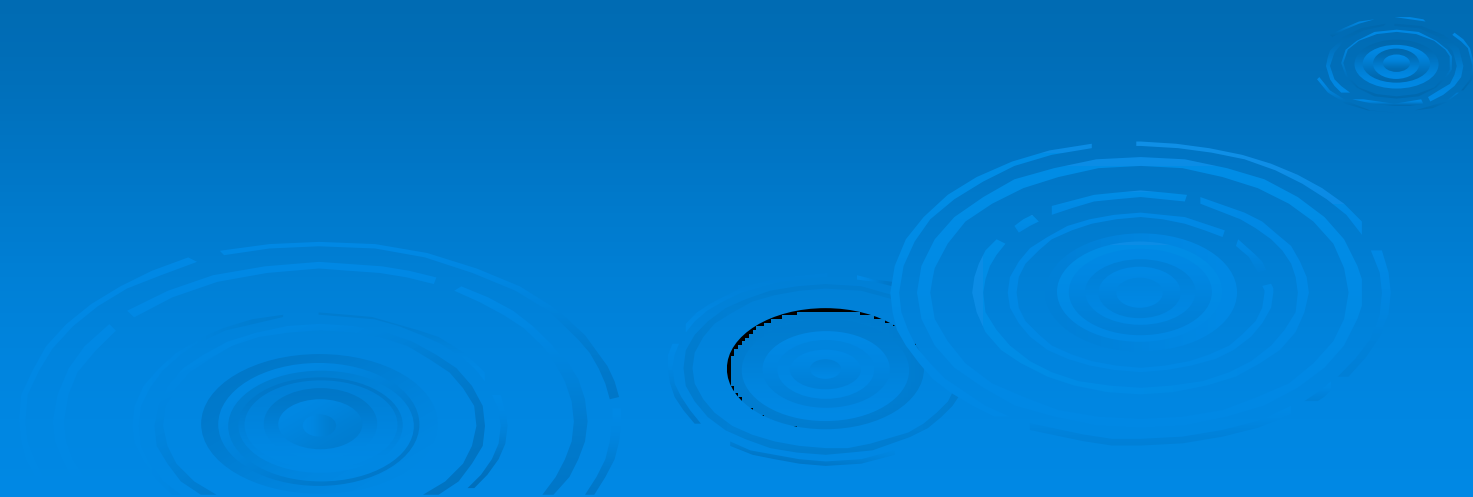
- Retrospective chart review of 23 eyes of 23 patients who were separated into three groups-7 eyes had ranibizumab monotherapy, 16 had combined ranibizumab and verteporfin PDT, and 12 had PDT monotherapy
- Patients were followed with baseline ICG, as well as visual acuity
- Results: At 3 months mean logarithm of minimal angle of resolution best-corrected visual acuity improved from 0.92 to 0.74 in ranibizumab group, from 0.70 to 0.59 in combined group and from 0.74 to 0.57 in PDT monotherapy group and complete regression of polypoidal lesions in ICG was found in 14.3 % of eyes in ranibizumab group compared with 93.8% of eyes in combined group
- Conclusion: Intravitreal ranibizumab appeared to result in stabilization of vision in patients with symptomatic polypoidal choroidal vasculopathy; however, combined therapy with PDT appeared to be more effective in causing complete regression of lesions on ICG

# What about our patient?

- Our patient was counseled on her medical condition and offered intravitreal avastin therapy.
- Our patient declined therapy and sought a second opinion.

# Self Reflection

- I think this case is an excellent example of an uncommon entity with a classic presentation and demonstrates the importance of patient education in regards to treatment options.

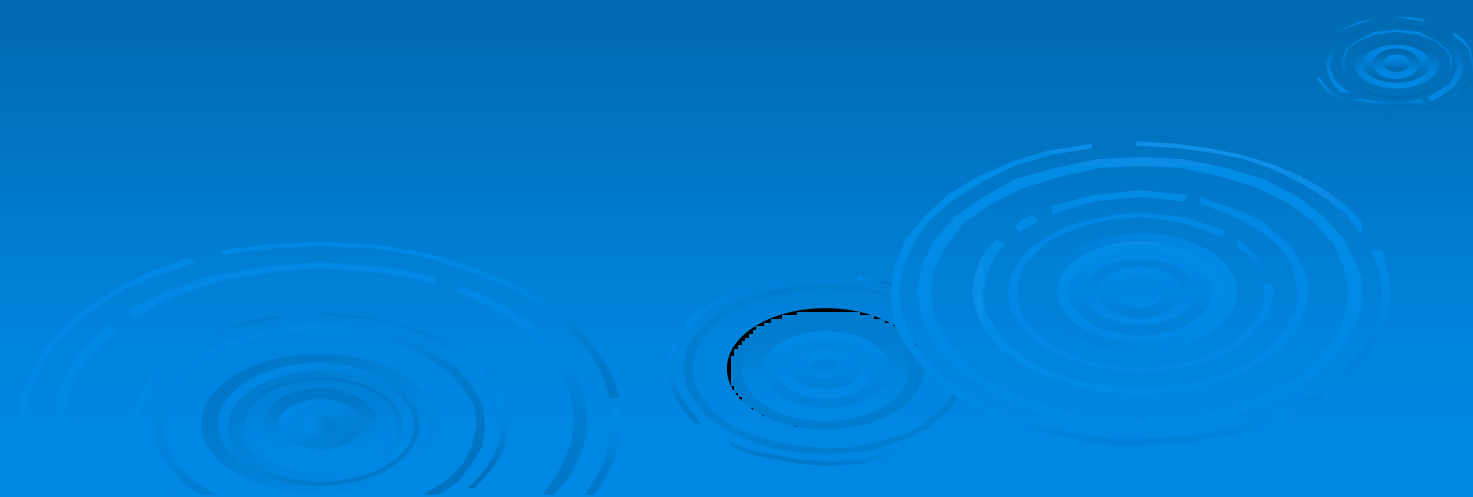


# Core Competencies

- Patient Care:
  - The patient was counseled on her condition, and the patient was transferred to the appropriate facilities for treatment.
- Medical Knowledge:
  - In managing this patient I was able to increase my medical knowledge of a condition that is rarely seen
- Practice Based Learning and Improvement:
  - This case allowed me to review the literature on Polypoidal Choroidal Vaculopathy
- Systems Based Practice
  - We worked within the guidelines provided by the literature regarding treatment of Polypoidal Choroidal Vaculopathy
- Professionalism
  - The patient was seen in a timely fashion and professional courtesy was used when consulting outside ophthalmologists.
- Interpersonal Skills and Communication
  - In this case we were able to identify pathology and communicate to the patient her treatment options

# References

- *Polypoidal Choroidal Vasculopathy: Incidence, Demographic Features, and Clinical Characteristics Arch Ophthalmol.*2003;121(10):1392-1396.
- Gomi F, Tano Y. Polypoidal choroidal vasculopathy and treatments.Curr Opin Ophthalmol. 2008 May;19(3):208-12.
- Lai TY, Lee GK, Luk FO, Lam DS. INTRAVITREAL RANIBIZUMAB WITH OR WITHOUT PHOTODYNAMIC THERAPY FOR THE TREATMENT OF SYMPTOMATIC POLYPOIDAL CHOROIDAL VASCULOPATHY. Retina. 2011 May 23.
- Retina and Vitreous Basic and Clinical Science Course 2009- 2010



# Thank You

- Dr. Olumba

