

Diabetic and Other Retinal Vascular Diseases

Learning Objectives

1. Define the various stages of diabetic retinopathy and explain current treatment paradigms for diabetic macular edema and proliferative diabetic retinopathy.
2. Describe the clinical manifestation of hypertensive retinopathy, retinal vascular occlusions, arterial occlusions, and ocular ischemic syndrome and review current treatment paradigms for cystoid macular edema.
3. Describe clinical findings of other retinal vascular disorders.

Pre-work:

1. Read BCSC chapters 5, 6 and 7 (*required*)
2. [AAO PowerPoint reviews](#) sections on diabetic retinopathy and vascular diseases (*optional*)
3. Assigned groups below, please prepare a 5–7-minute PowerPoint presentation (~ 5 slides) that uses evidence-based conclusions to support your treatment decisions for the cases below and be ready to debate your reasoning. (*required*)

Format of the 2-hour lecture:

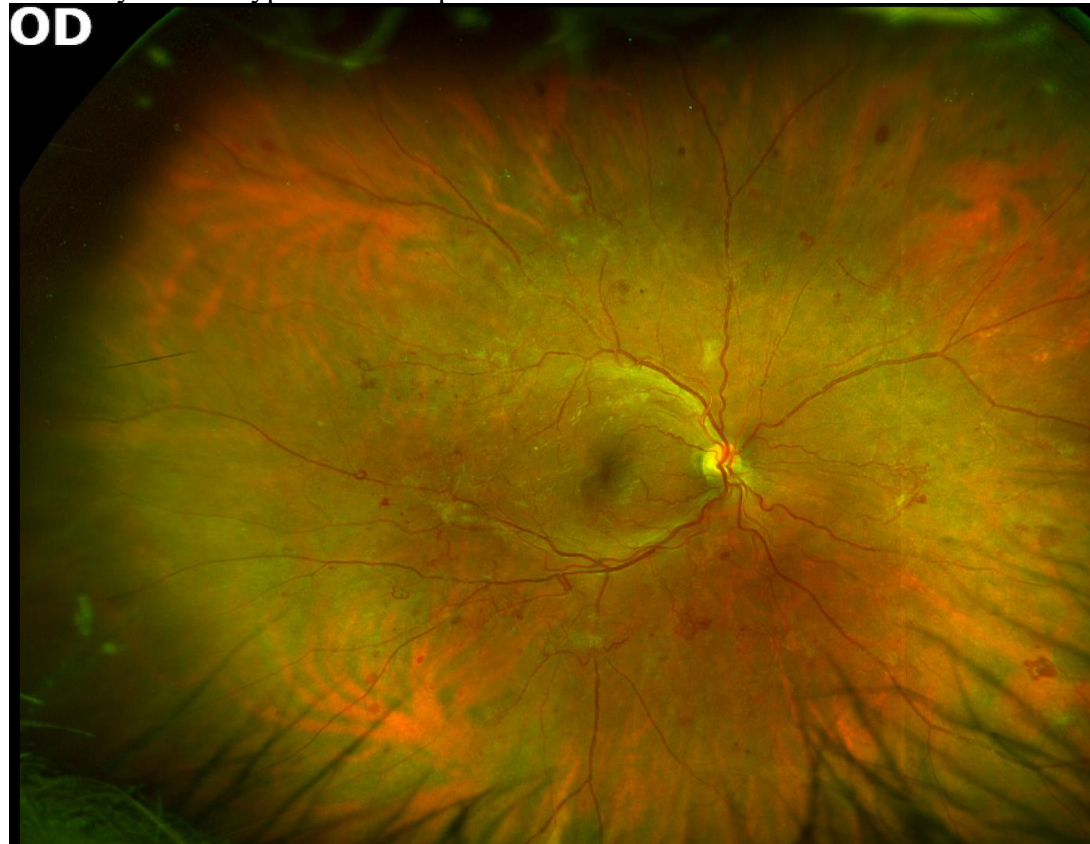
1. PPT Presentations: Each team should prepare a 5-10 minute presentation using the literature below to support your position (1 hour).
2. Oral board style cases: We will be going over various conditions from your BCSC chapters 5,6, and 7. A history prompt and photographs depicting a specific disease will be displayed for each case. Be prepared to answer in an oral boards format (1 hour).

Assigned Groups:

- Group 1: A pg1-4 from each case
- Group 2: A pg1-4 from each case
- Group 3: A pg1-4 from each case

Debate Case #1: Management of Proliferative Diabetic Retinopathy

This 27-year-old Type 1 diabetic presents with 20/25 vision as below:



Team 1: Initiate anti-VEGF treatment: Group 1

Team 2: Initiate PRP treatment: Group 2

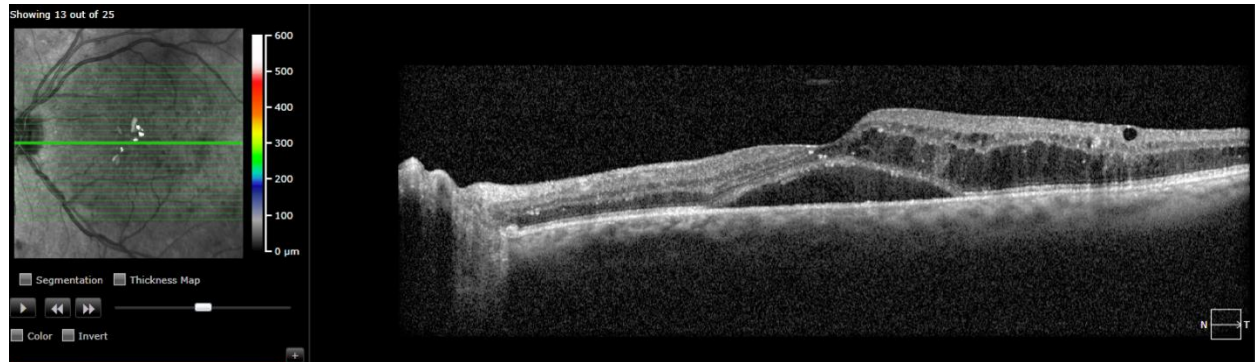
Team 3: Pars plana vitrectomy: Group 3

Suggested Articles to review for supportive arguments:

1. Obeid et al. Outcomes of Eyes Lost to Follow-up with Proliferative Diabetic Retinopathy that Received Panretinal Photocoagulation versus Intravitreal anti-vascular endothelial growth factor. *Ophthalmology* 2019 Mar; 126. 407-413
2. DRCR Protocol S: Gross JG et al. Diabetic Retinopathy Clinical Research Network. Five-year outcomes of panretinal photocoagulation vs intravitreal ranibizumab for proliferative diabetic retinopathy: A randomized clinical trial. *JAMA Ophthalmol.* 2018 Oct 1;136(10):1138-1148
3. Berrocal, MH. Early pars plana vitrectomy for proliferative diabetic retinopathy: update and review of current literature. *Curr Opin Ophthalmol* 2021 May 1;32(3):203-208.

Debate Case #2: Management of DME

A 45-year-old type 2 diabetic man with vision 20/80 and the below OCT scan of the left eye; should we start treatment with Avastin or Eylea? Does it change your management to find out he has no insurance coverage?



Team Avastin: Group 1

Team Eylea: Group 2

Other treatment: Group 3

Suggested Articles to review for supportive arguments:

1. Jhaveri CD, Glassman AR, Ferris FL, Liu D, Maguire MG, Allen JB, Baker CW, Browning D, Cunningham MA, Friedman SM, Jampol LM, Marcus DM, Martin DF, Preston CM, Stockdale CR, Sun JK, DRCR Retina Network. **Aflibercept monotherapy versus bevacizumab first followed by aflibercept if needed for treatment of center-involved diabetic macular edema.** NEJM. Published online July 14, 2022.
2. Diabetic Retinopathy Clinical Research Network, Wells JA, Glassman AR, Ayala AR, Jampol LM, Aiello LP, Antoszyk AN, Arnold-Bush B, Baker CW, Bressler NM, Browning DJ, Elman MJ, Ferris FL, Friedman SM, Melia M, Pieramici DJ, Sun JK, Beck RW. **Aflibercept, Bevacizumab, or Ranibizumab for Diabetic Macular Edema.** N Engl J Med. 2015 Mar 26; 372(13): 1193–1203.