

Radiation retinopathy

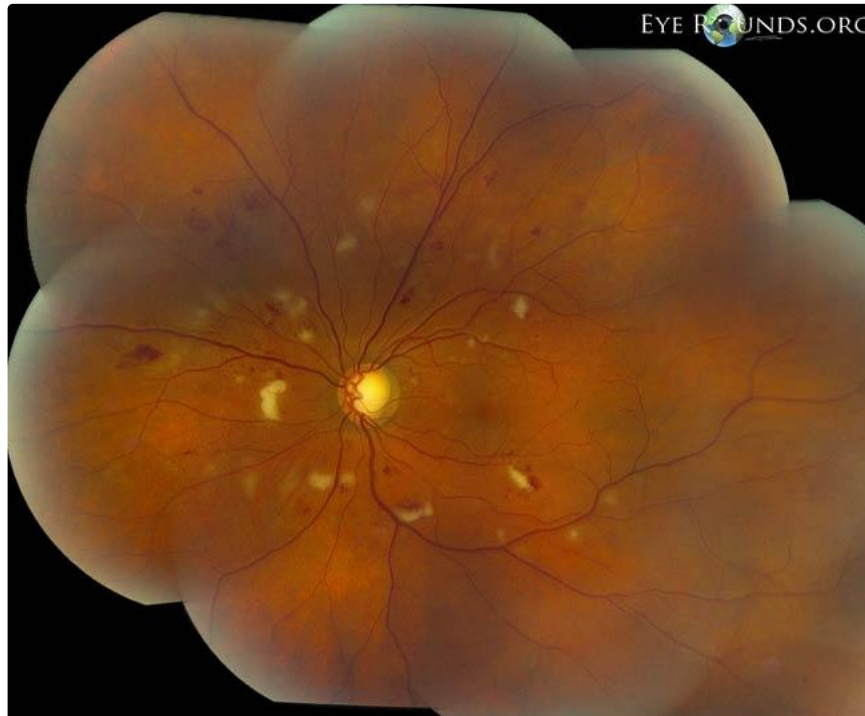
Category(ies): Retina, Vitreous

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Photographer: Toni Venckus, CRA



Radiation retinopathy is a slowly-progressive microangiopathy that occurs after prior exposure to radiation. Findings are similar to diabetic retinopathy and include microaneurysms, retinal hemorrhages, exudates, and cotton wool spots as seen in this photograph. Occasionally the condition can lead to areas of capillary nonperfusion and retinal neovascularization which was not apparent in this patient.



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Photographer: Andrea Hoback

This patient has a history of intracranial malignancy treated with chemotherapy, radiation, and resection and developed blurry vision in the both eyes 6 months following treatment. Color montage photos of both eyes depict numerous scattered dot and blot hemorrhages, flame hemorrhages along the arcades, exudates, and cotton wool spots. In the left eye, there is a pre-retinal hemorrhage overlying the optic nerve and tracking inferiorly.

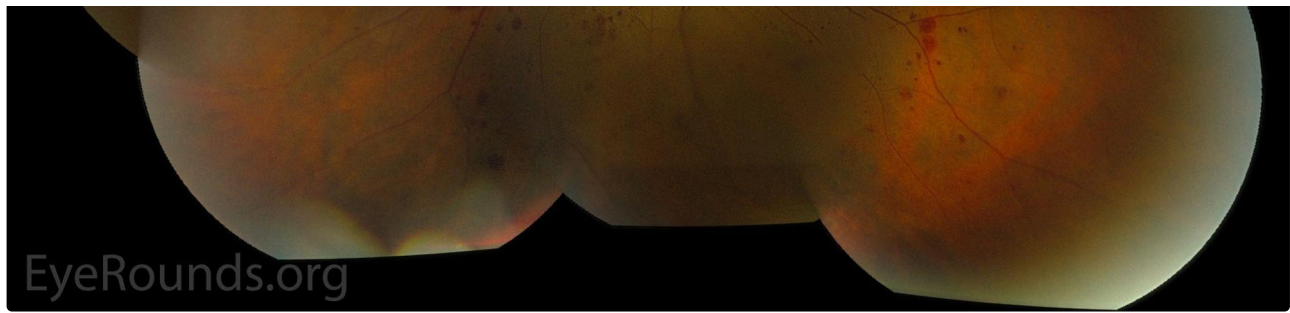
Radiation retinopathy has a delayed onset after external beam or plaque brachytherapy. Typical radiation doses of 30-35 grays are required for radiation retinopathy to occur, but doses of as little as 15 grays have resulted in radiation retinopathy. Typically, patients present with decreased visual acuity. On examination, there are hemorrhages, cotton wool spots, and macular edema. Other vascular diseases, like diabetic retinopathy, may appear similarly and should be in the differential diagnosis.

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References:

1. Radiation retinopathy. In: Basic and clinical science course (BCSC) Section 12: Retina and vitreous. Chapter 7 Other retinal vascular diseases. San Francisco, CA: American Academy of Ophthalmology. 2016-2017 p153-154

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