

Purtscher Retinopathy

Category(ies): Retina, Vitreous

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Photographer: Brice Critser, CRA and Susan Wright, CRA



This 21 year old male noted a significant unilateral decrease in vision two days after an all-terrain vehicle (ATV) roll-over accident in which he suffered head trauma and a fractured rib. Radiating superficial retinal ischemia is seen here with scattered blot hemorrhages and venous dilation in the right eye. His left eye was unaffected. True Purtscher's Retinopathy was originally described in cases of known head-trauma, but this clinical picture can also be seen in a variety of disease mechanisms including chest compression, long-bone fracture, acute pancreatitis, and connective tissue disorders amongst others.

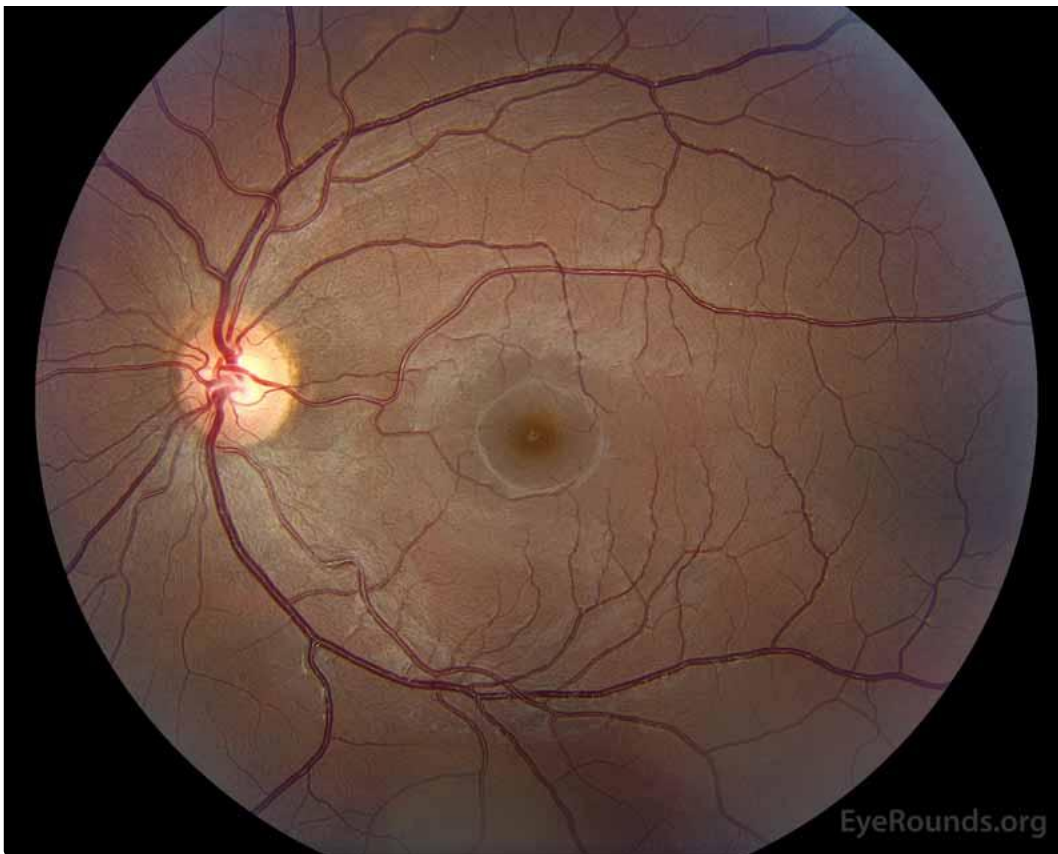


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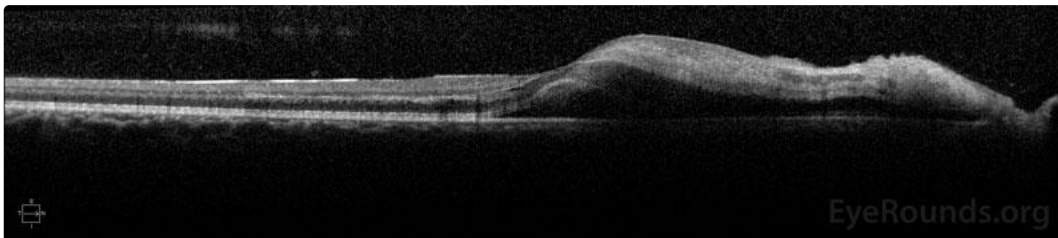
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Contributor: [Matthew Benage, MD](#)

Photographer: Sarah Greenwalt

This is an impressive example of Purtscher's retinopathy following unrestrained motor vehicle accident. He suffered T5-T7 fracture, brain contusion, rib fracture, and mandibular fracture. He presented to clinic due to complaint of profound vision loss following his accident. On exam, he was noted to have Purtscher's retinopathy. Note the significant inner retinal edema on OCT and whitening, arteriolar hemorrhage, and edema of the fundus.

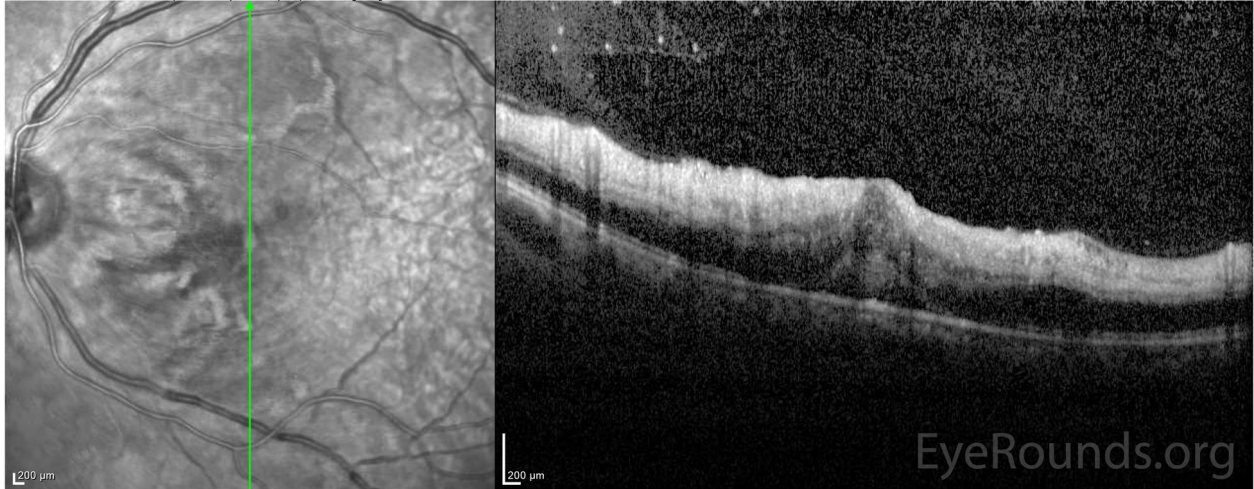
Purtscher's retinopathy typically follows trauma in the absence of direct trauma to the globe. Common causes are long bone fracture, chest compression injuries, air embolization, childbirth, as well as pancreatitis and connective tissue disorders. Clinical presentation is variable, with some patients presenting with profound vision loss and others with minimal changes. A relative afferent pupillary defect may or may not be present. Clinical findings are cotton wool spots, retinal hemorrhages, and Purtscher's flecken, which are areas of whitening in the inner retina between the retinal arterioles and venules. OCT displays hyperreflectivity of the inner retinal layers due to inner retinal edema. Prognosis is variable and largely depends on the extent of retinal involvement.



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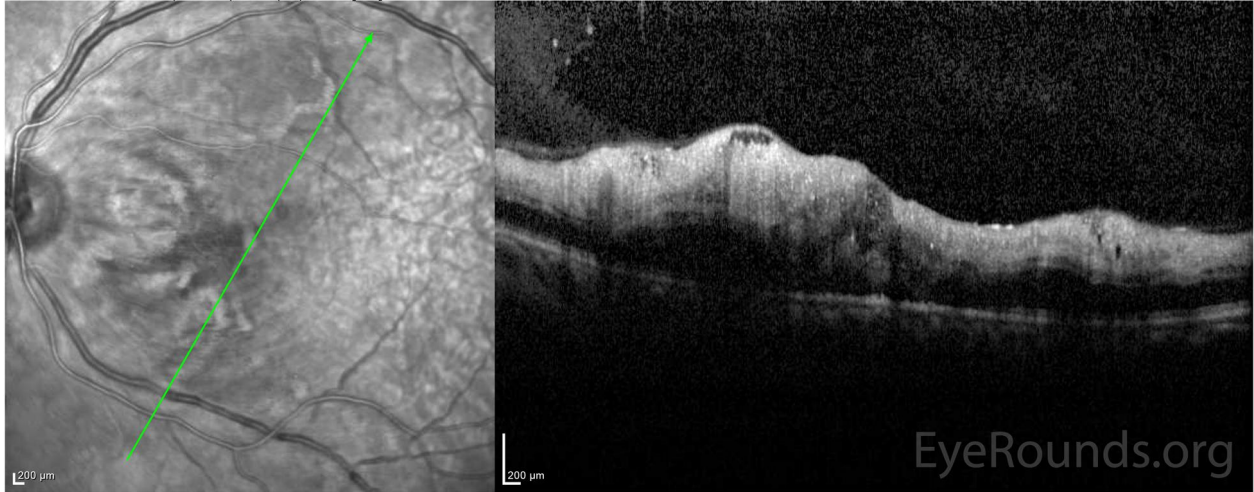
IR 30° ART + OCT 30° (8.3 mm) ART (25) Q: 21 [HS]



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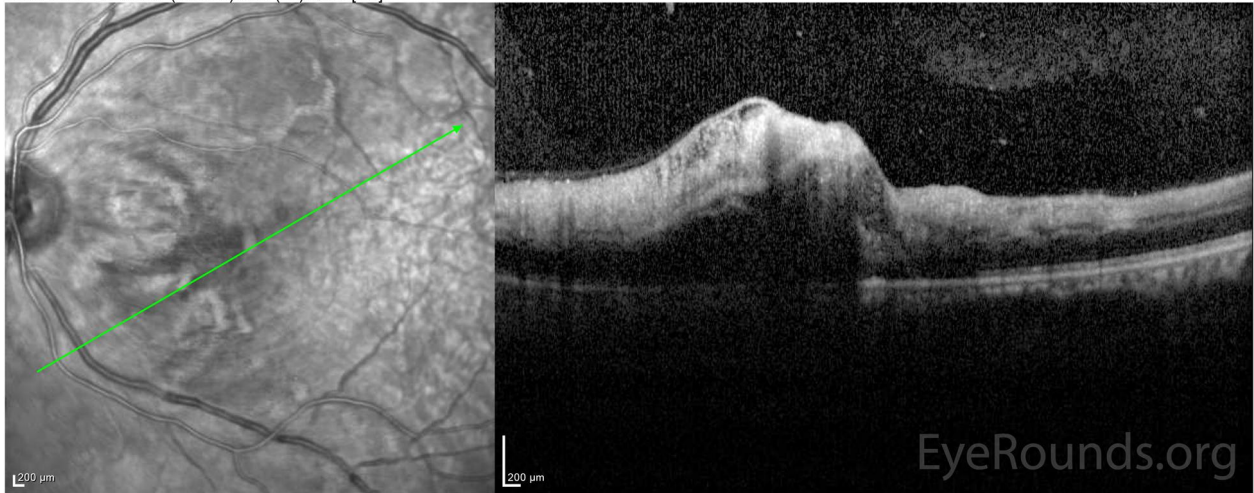
IR 30° ART + OCT 30° (8.3 mm) ART (26) Q: 28 [HS]



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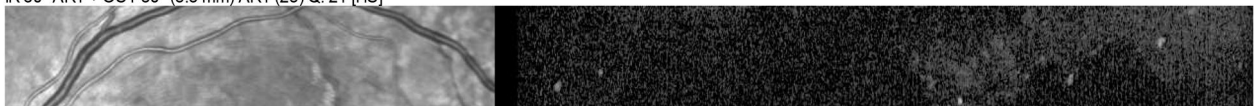
IR 30° ART + OCT 30° (8.3 mm) ART (25) Q: 20 [HS]

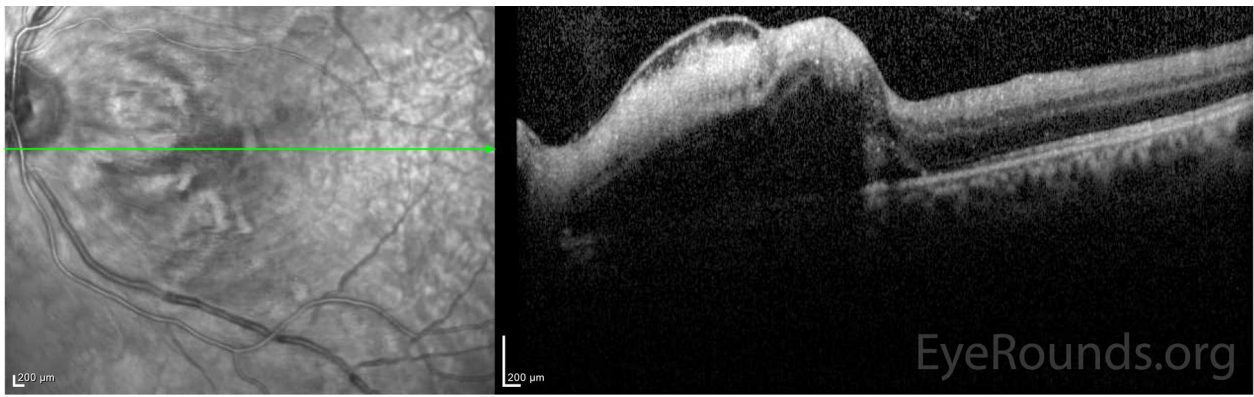


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IR 30° ART + OCT 30° (8.3 mm) ART (25) Q: 21 [HS]

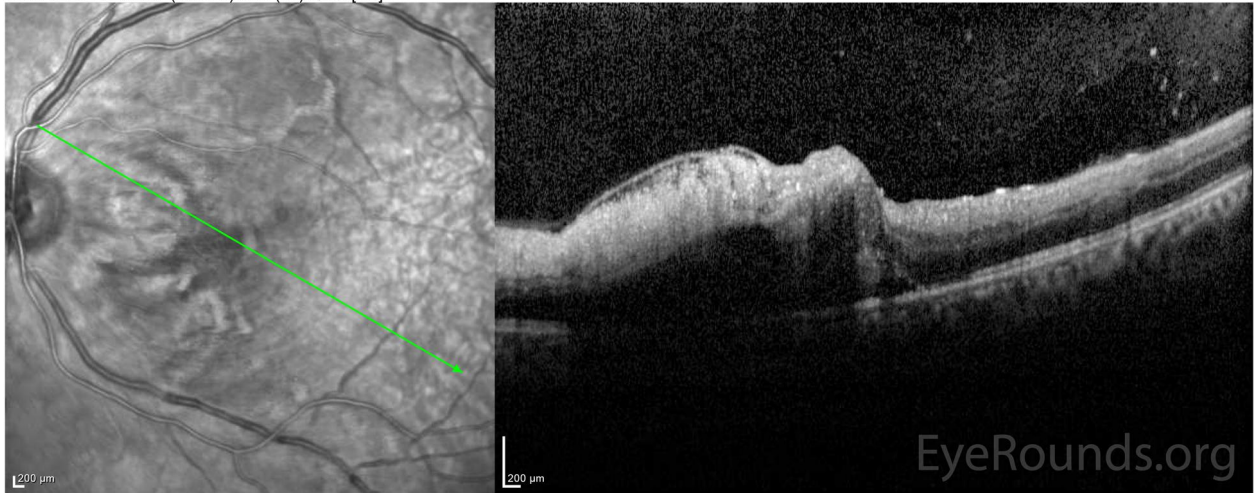




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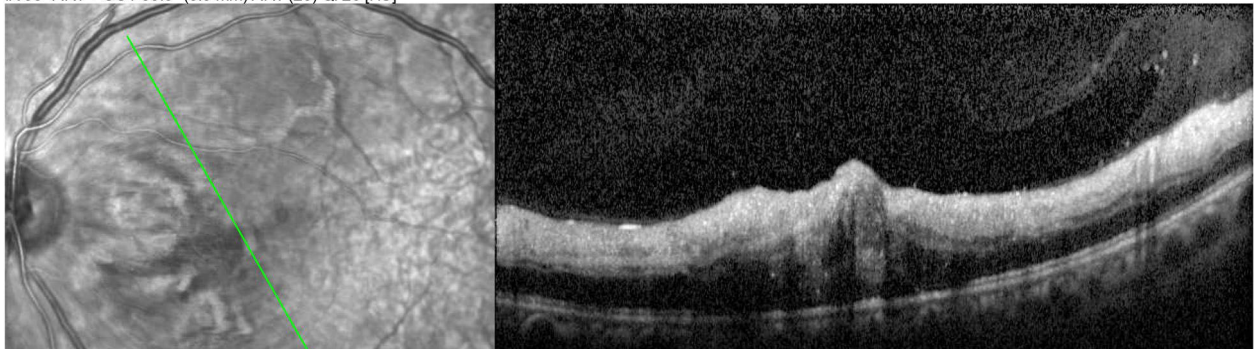
IR 30° ART + OCT 30° (8.3 mm) ART (24) Q: 26 [HS]



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IR 30° ART + OCT 30.0° (8.3 mm) ART (25) Q: 26 [HS]





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Contributor: [Jesse Vislisel, MD](#)

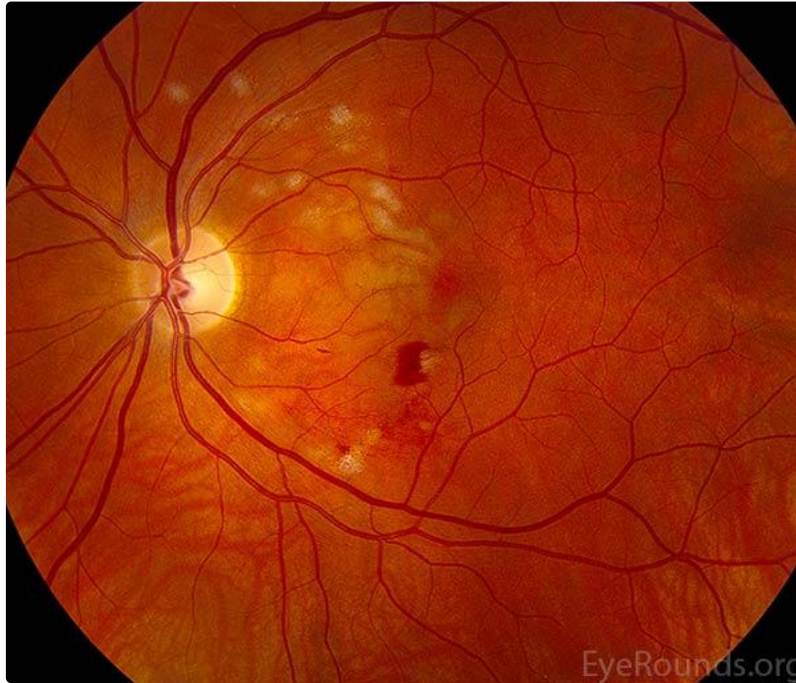
Photographer: Antoinette Venckus, CRA; Stefani Karakas, CRA

Purtscher retinopathy is the appearance of cotton wool spots, hemorrhages, and retinal edema located predominantly around the optic disc. It is caused by complement activation after acute crushing injuries to the head or thorax. Similar-appearing Purtscherlike retinopathy can be caused by a variety of etiologies including acute pancreatitis, chronic renal failure, autoimmune diseases, fat embolism, amniotic fluid embolism, retrobulbar anesthesia, and orbital steroid injection. Below are images of two separate patients with Purtscher retinopathy after compressive injuries to the chest.



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References:

1. Agrawal A, and McKibbin M: Purtscher's retinopathy: epidemiology, clinical features and outcome. Br J Ophthalmol 2007; 91: pp. 1456-1459

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