

Retinal Breaks/Holes with Proliferative Vitreoretinopathy and Chronic Recurrent Rhegmatogenous Retinal Detachment

Category(ies): Retina, Vitreous

Contributor: Eric Chin MD

Photographer: Carol Chan, CRA



69-year-old female referred by an outside retina specialist for a recurrent macula-off retinal detachment in the right eye. She was previously treated for a macula-off retinal detachment in the right eye 1.5 months prior to presentation with surgery. She had gradual vision loss over the prior few months. No falls or trauma. No other eye surgeries. No family history of retinal detachments.

- BCVA: OD HM 5'; OS 20/25
- IOP: 18 and 16
- SLE:
 - OD: 2+ NS and optically empty vitreous
 - OS: 1+ NS with PVD

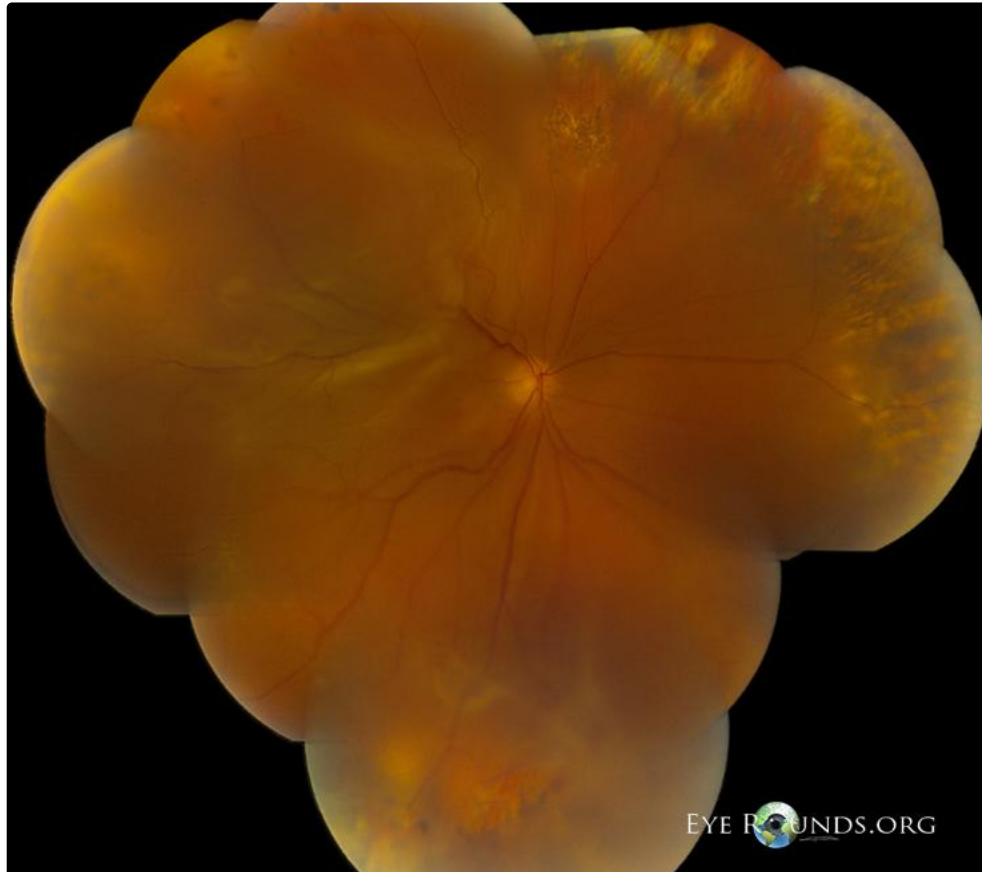


Figure 1: Montage photo of her right eye: clear media; macula off bullous-retinal detachment with laser scars in the periphery. Multiple small and large retinal breaks at 1230, 6, 930, and 1030 o'clock. Proliferative vitreoretinopathy grade C2 (two-quadrants).

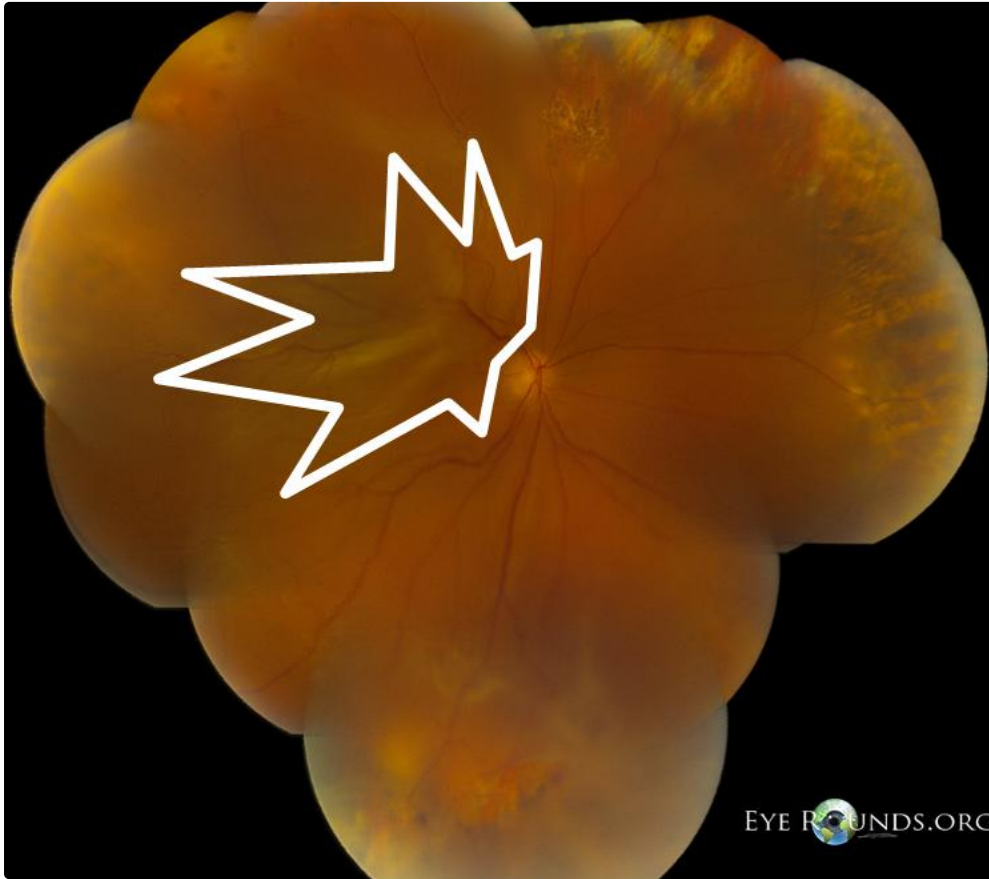


Figure 2: Focal PVR posterior to the equator with mild fixed folds highlighted with white lines

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Figure 3

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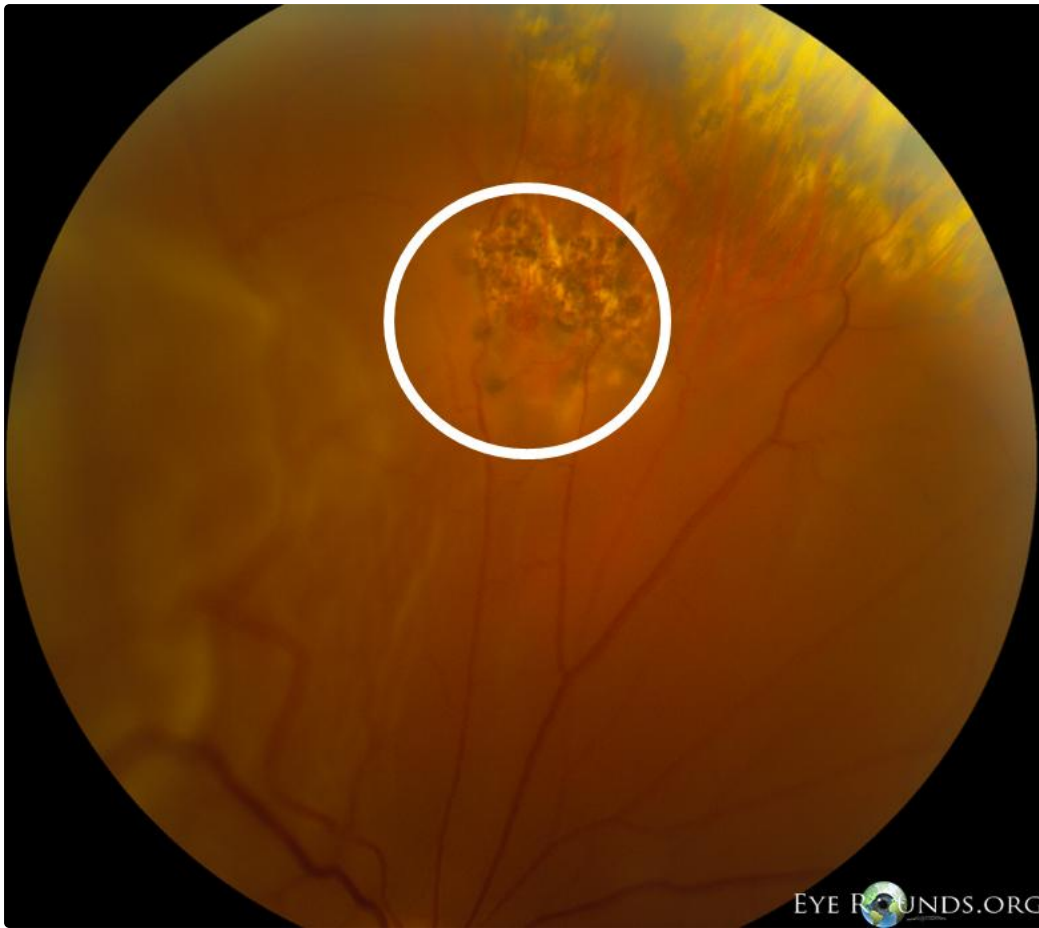


Figure 4: Round retinal break at 1230 just posterior to the equator, despite focal laser from prior surgery.

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Figure 5: Large retinal break at 6 o'clock with underlying laser scars from prior surgery

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Figure 6: Focal proliferative vitreoretinopathy inferiorly adjacent to large retinal break with mild star-fold pattern highlighted with white lines.

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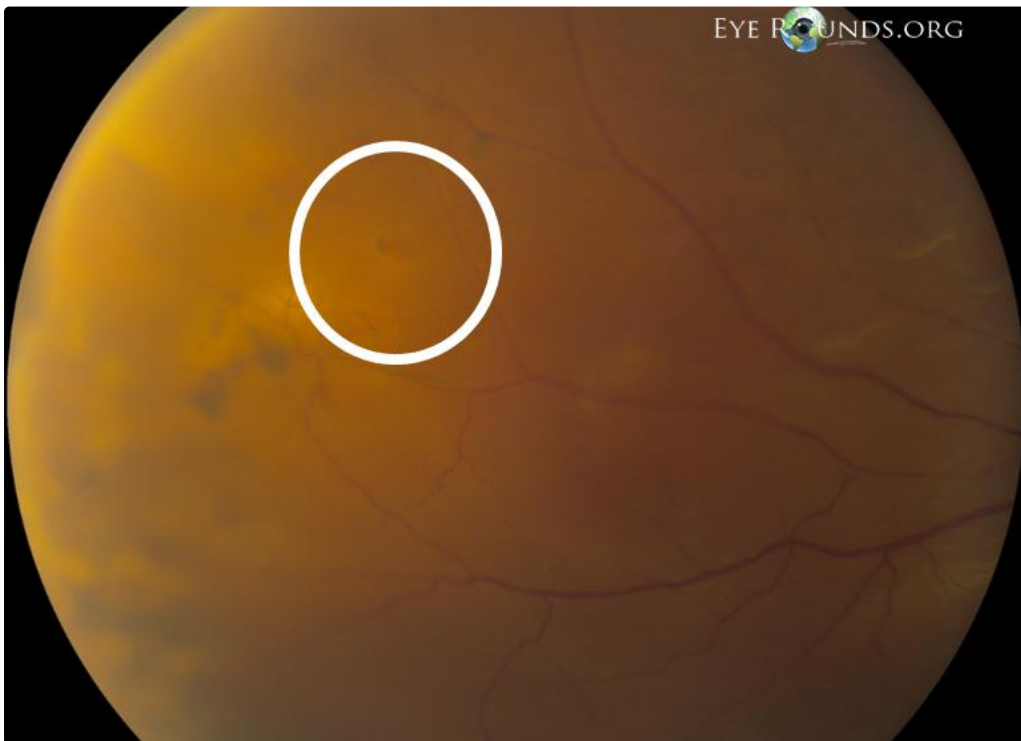


Figure 7: Small retinal break at 930 o'clock with underlying RPE changes from prior surgery

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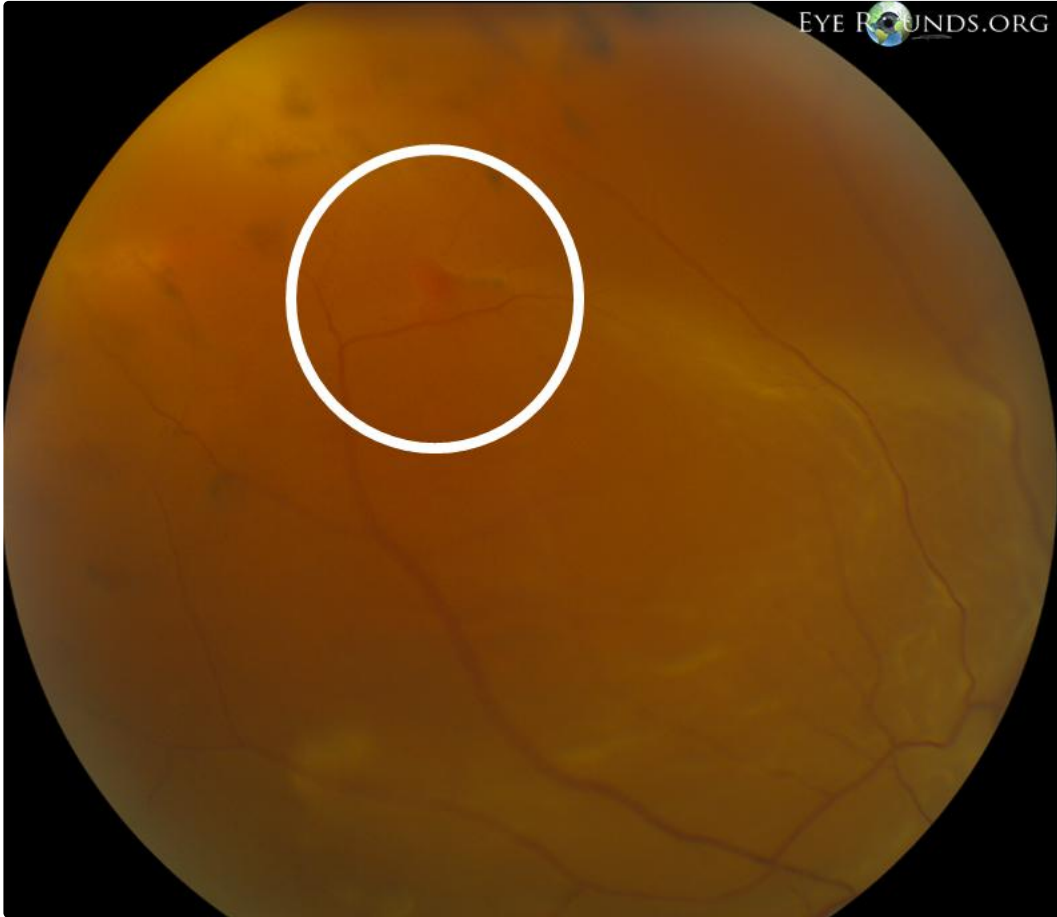


Figure 8: Small retinal break at 1030 o'clock with anterior RPE changes from prior surgery.

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Patient underwent elective 23-gauge pars plana vitrectomy, scleral buckle, and silicone oil placement in the right eye.

Table 1: Classification of Retina Detachment with Proliferative Vitreoretinopathy, 1983

Grade	Name	Clinical Sign
A	Minimal	Vitreous haze, vitreous pigment clumps
B	Moderate	Wrinkling of inner retinal surface, rolled edge of retinal break, retinal stiffness, vessel tortuosity
C	Marked	Full-thickness fixed retinal folds C-1 one quadrant C-2 two quadrants C-3 three quadrants
D	Massive	Fixed retinal folds in four quadrants D-1 wide funnel shape D-2 narrow funnel shape D-2 closed funnel (optic nerve head not visible)

- Retina Society Terminology Committee: The classification of retinal detachment with proliferative vitreoretinopathy Ophthalmology 1983;90:121-125.
- Brinton DA, Wilkinson CP. Retinal Detachment Principles and Practice Third Edition. Oxford University Press. 2009. p108.

Table 2: Classification of Proliferative Vitreoretinopathy, 1991

* = number of clock-hours involved

Grade	Features
A	Vitreous haze, vitreous pigment clumps, pigment clusters on inferior retinal
B	Wrinkling of inner retinal surface, retinal stiffness, vessel tortuosity, rolled and irregular edge of retinal break, decreased mobility of vitreous
CP1-12*	Posterior to equator: focal, diffuse, or circumferential full-thickness folds, subretinal strands
CA1-12*	Anterior to equator: focal, diffuse, or circumferential full-thickness folds, subretinal strands, anterior displacement, condensed vitreous with strands

- Machemer R, Aaberg TM, Freeman HM, et al. An updated classification of retinal detachment with proliferative vitreoretinopathy. Am J Ophthalmic 1991;112:159-165.
- Brinton DA, Wilkinson CP. Retinal Detachment Principles and Practice Third Edition. Oxford University Press. 2009. p113.

Table 3: Grade C Proliferative Vitreoretinopathy Described by Contraction Type, 1991

Type	Location in Relation to Equator	Features
Focal	Posterior	Star folds posterior to vitreous base
Diffuse	Posterior	Confluent star folds posterior to vitreous base: optic disc may not be visible
Subretinal	Posterior/anterior	Proliferations under retina: annular strand near disc, linear strands, moth-eaten-appearing sheets
Circumferential	Anterior	Contraction along posterior edge of vitreous base with central displacement of retina, peripheral retina stretched, posterior retina in radial folds
Anterior displacement	Anterior	Vitreous base pulled anteriorly by proliferative tissue, peripheral retina trough, ciliary processes may be stretched and may be covered by membrane, iris may be retracted

- Machemer R, Aaberg TM, Freeman HM, et al. An updated classification of retinal detachment with proliferative vitreoretinopathy. Am J Ophthalmic 1991;112:159-165.
- Brinton DA, Wilkinson CP. Retinal Detachment Principles and Practice Third Edition. Oxford University Press. 2009. p113.

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University of Iowa
Roy J. and Lucille A. Carver College
of Medicine
Department of Ophthalmology and
Visual Sciences
200 Hawkins Drive
Iowa City, IA 52242

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