Vitreous Disorders

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Vitreous Hemorrhage

- blood extravasation within or around vitreous body.

Etiology

* + 1. **retinal neovascularization** - neovascular fragile vessels (e.g. diabetic retinopathy!!!, retinal vein occlusion, retinopathy of prematurity)
    2. posterior vitreous detachment with retinal vascular tear, retinal tears, ocular trauma
    3. subretinal bleeding with **secondary extension** into vitreous.
    4. **Terson syndrome**: SAH → acutely elevated ICP transmitted to retinal venules via optic nerve; 33% SAH patients have associated intraocular hemorrhage!!!

N.B. *coagulation disorders / anticoagulant therapy* does not cause vitreous hemorrhage!

Clinical features - large floaters, painless monocular visual loss.

* hemorrhage tends to absorb slowly.

Complications:

* + 1. **hemosiderosis bulbi** with photoreceptor toxicity
    2. **glaucoma** secondary to blockade of trabecular meshwork by formed *ghost cells* (develop from long-standing blood cells in vitreous)
    3. severe **floaters**
    4. **myopic shift** and **amblyopia** in infants.

Diagnosis - black reflex on ophthalmoscopy; blood impedes complete fundus examination (H: B-scan ultrasonography).

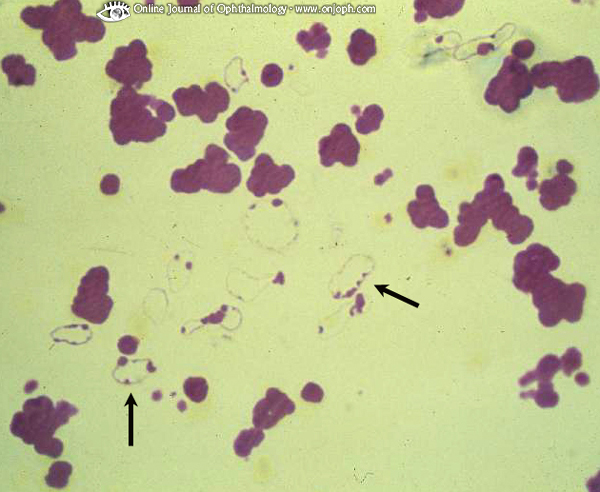
N.B. examine carefully to *rule out possible retinal detachment*!

**Old Vitreous Hemorrhage**; diffuse yellowish opacity through which one may get orange reflex; it consists of breakdown products of hemoglobin:



[Source of picture: “Online Journal of Ophthalmology” >>](http://www.atlasophthalmology.com/atlas/frontpage.jsf?locale=en)

**Old Vitreous Hemorrhage, Histology;** hemoglobin breakdown products are seen in addition to *erythrocyte ghost cells* (*arrow*):



[Source of picture: “Online Journal of Ophthalmology” >>](http://www.atlasophthalmology.com/atlas/frontpage.jsf?locale=en)

Treatment

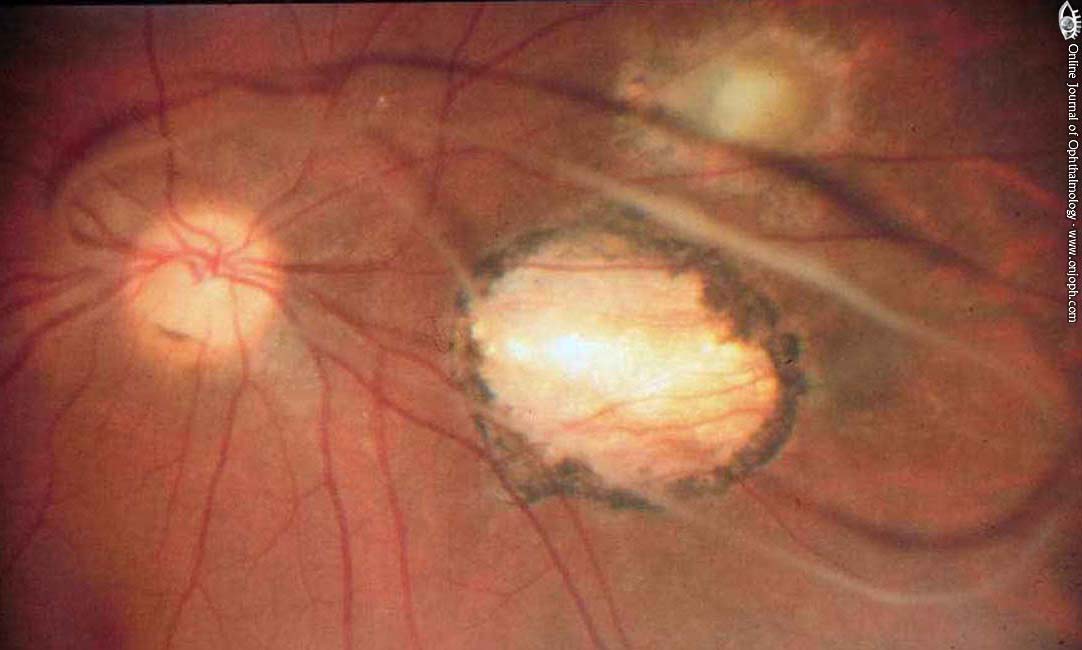
* bed rest with head elevated 30-45° with occasional bilateral patching (to allow blood to settle inferiorly).
* treat cause (e.g. photocoagulation of new vessels).

**localized bleeding** → photocoagulation.

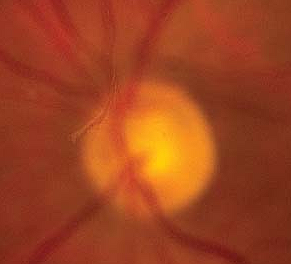
**nonclearing vitreous hemorrhage** → pars plana vitrectomy.

Posterior vitreous detachment

* contraction of vitreous gel → separation from retina → macroscopic opaque aggregates of vitreous fibers floating in vitreous → floaters (become less noticeable with time).
* more prevalent in ***highly myopic*** and ***older*** persons.



Posterior vitreous detachment without Weiss ring:



Bibliography for ch. “Ophthalmology” → follow this [link >>](http://www.neurosurgeryresident.net/Eye.%20Ophthalmology\Eye.%20Bibliography.pdf)

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