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.

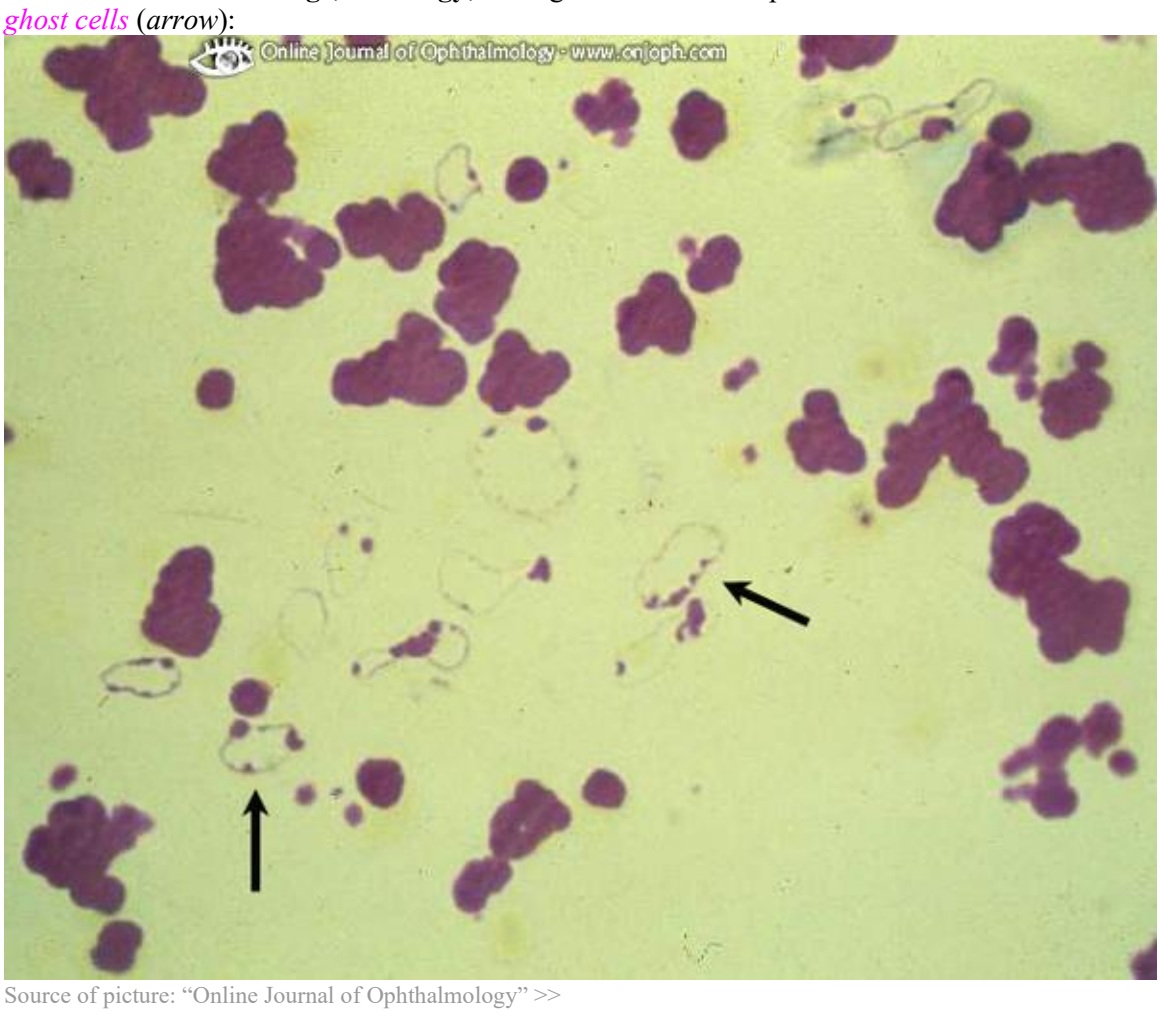
Diagnosis - black reflex on ophthalmoscopy; blood impedes complete fundus examination (H: B-scan ultrasonography).

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" >>

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



Source of picture: "Online Journal of Ophthalmology" >>

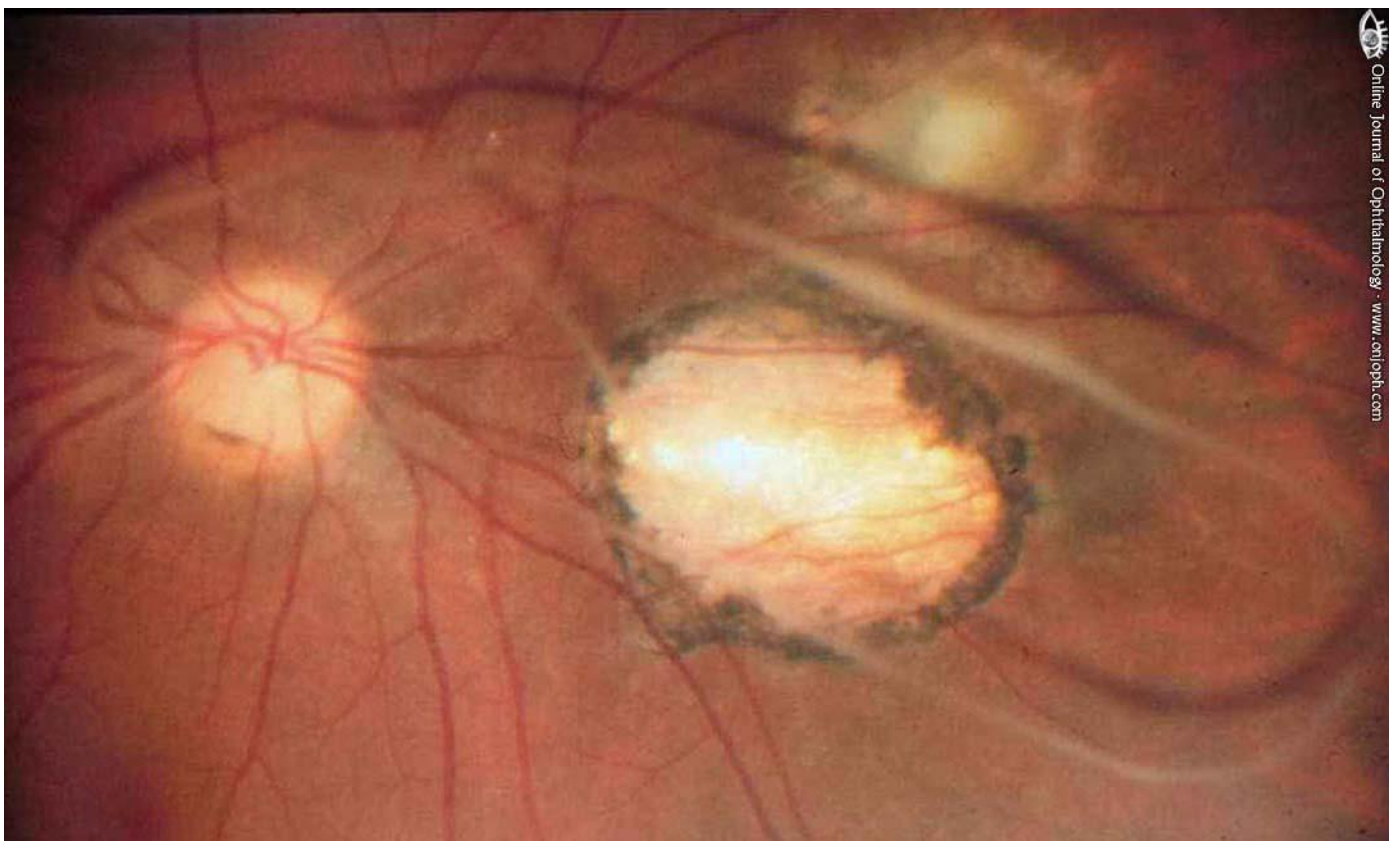
TREATMENT

- 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.

- no treatment is needed but urgently evaluate to make sure there is no associated retinal tear.



Posterior vitreous detachment without Weiss ring:

BIBLIOGRAPHY for ch. "Ophthalmology" → follow this LINK >>