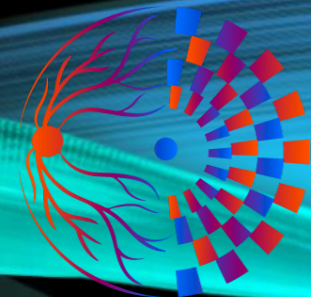


# VITREOUS AND SUBRETINAL HEMORRHAGE FOLLOWING RUPTURED ARTERIAL RETINAL MACROANEURYSMS: A THREAT OF RETINAL TOXICITY

Daniel Prado Beraldo, Guilherme Kamano, Elder Ohara, Roberto Brassaloti Filho, Pedro Henrique Fragoso Alves



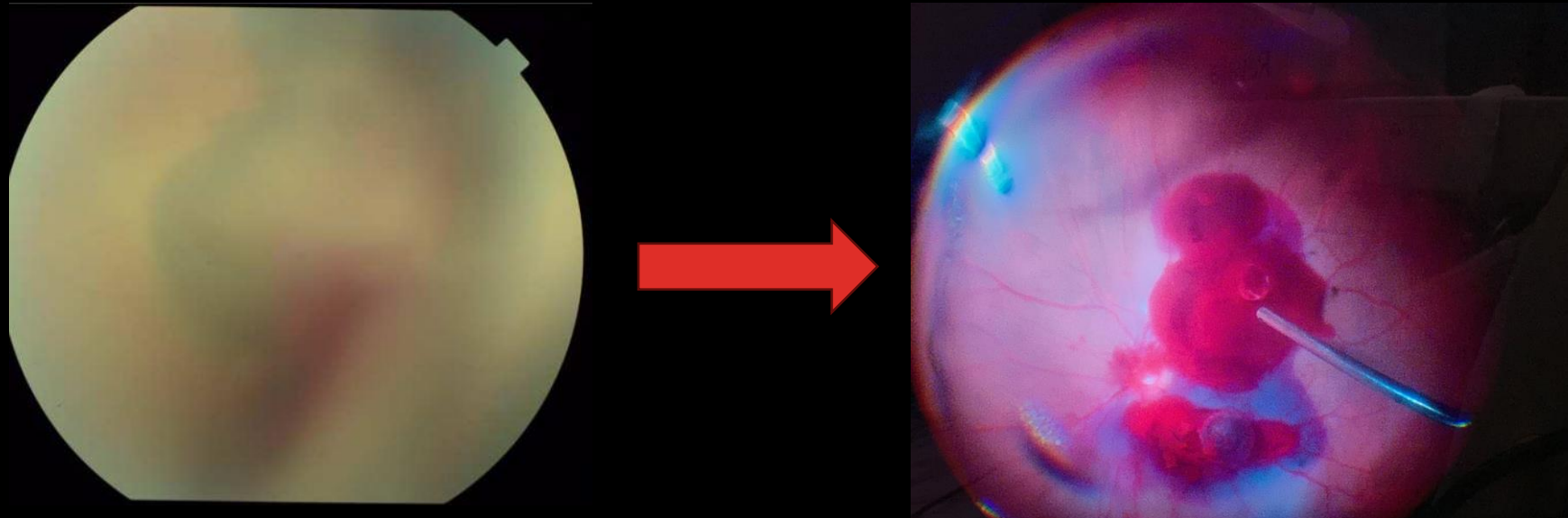
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# ABSTRACT

- Arterial retinal macroaneurysms (ARM) are acquired ectasias of the first three orders of retinal arterioles, characterized by rounded or fusiform dilations. They are found more frequently in elderly women with systemic arterial hypertension, accounting for two-thirds of cases. Most ARMs are asymptomatic, and visual loss results from hemorrhages or exudation involving the macula. Macular hemorrhages pose a significant threat to central vision, with major causes including age-related macular degeneration, retinal arterial macroaneurysm rupture, polypoidal choroidal vasculopathy, and trauma.
- Visual prognosis in eyes with ARM can be favorable and is related to the extent, duration, and thickness of submacular hemorrhage. Untreated macular hemorrhages can cause irreversible damage to the retina, photoreceptors, and retinal pigment epithelium (RPE) due to the direct toxic effect of iron in hemoglobin and blood clot formation. Early intervention to displace submacular blood to an extrafoveal location is crucial for preserving visual acuity and preventing photoreceptor damage.

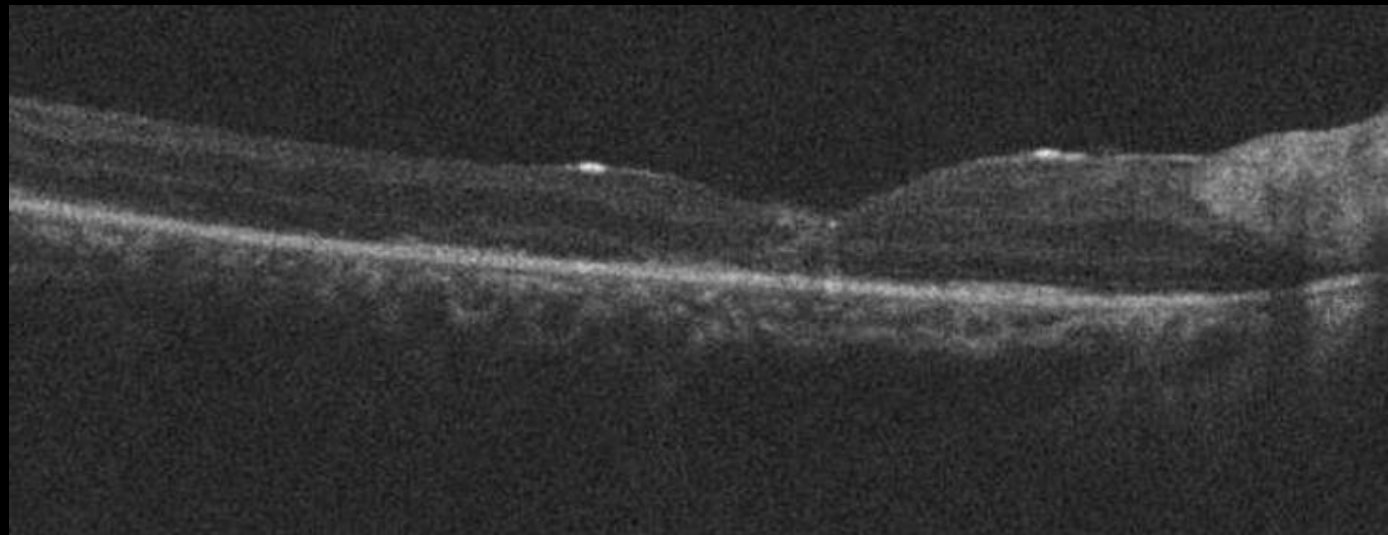
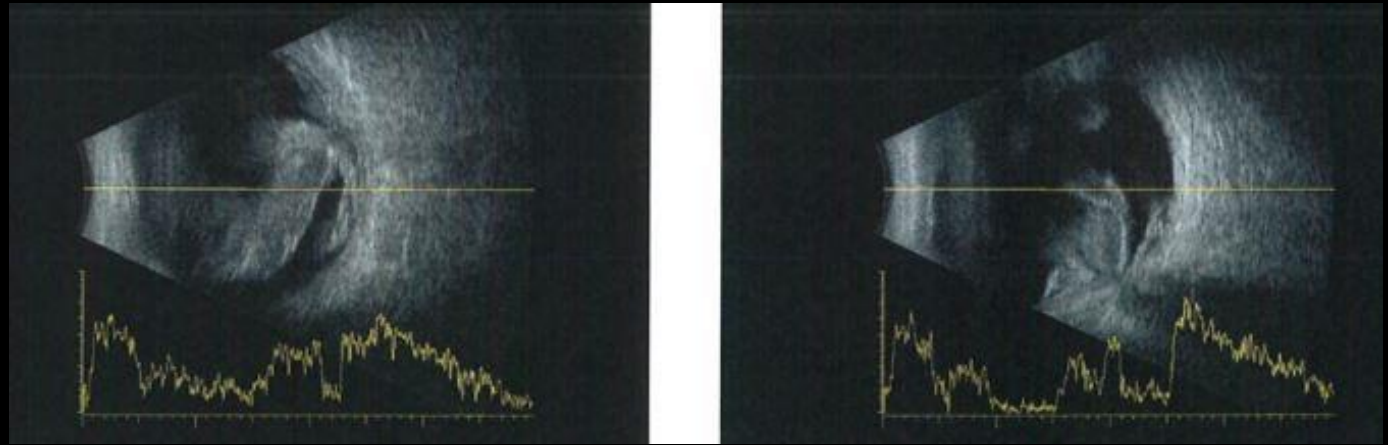
# MATERIALS AND METHODS

- A 49-year-old male, presenting with reduced visual acuity in the right eye for the past 16 days, was admitted to the ophthalmology service. He denied any significant past medical history. His visual acuity was measured at counting fingers at 1 meter. Biomicroscopy examination revealed clear cornea, crystalline lens, and anterior chamber bilaterally. Intraocular pressure in the right eye was recorded at 10 mmHg. Fundoscopy of the right eye showed a dense vitreous hemorrhage beneath the posterior pole, hindering evaluation of the optic disc and posterior pole, while the retina's periphery appeared unaltered.
- Subsequently, the patient underwent pars plana vitrectomy (PPV) surgery. The decision was made to retain balanced salt solution (BSS) in the eye to facilitate early postoperative ultrasound (USG) assessment.



# RESULTS

- A subsequent ultrasound scan revealed findings consistent with the history of hemorrhagic processes, including a cluster of echoes in the posterior portion of the vitreous and elevation of the posterior pole wall, spanning 360°, which may correspond to subretinal hemorrhagic processes, as observed during the intraoperative period.
- One month post-retinal surgery, evidence of outer retinal damage was observed on OCT imaging.
- The visual acuity improved from counting fingers at 1 meter to 20/200.



# CONCLUSION

- As known, subretinal hemorrhage (SRH) poses a toxic threat to the retina, and untreated SRH can result in swift tissue deterioration, accompanied by photoreceptor (PR) and retinal pigment epithelium (RPE) degradation, ultimately leading to unfavorable visual outcomes, particularly if the hemorrhage occurs within the macular region—a critical area for high-acuity vision. Unfortunately, the patient had exceeded the optimal time frame for subretinal tissue plasminogen activator (tPA) intervention, as the initial complaint had surpassed 14 days.