

# Surgical management of submacular hemorrhage with posterior vitrectomy and subretinal tissue plasminogen activator injection

Manejo cirúrgico de hemorragia submacular com vitrectomia posterior e injeção de ativador de plasminogênio tecidual subretiniano

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Submacular hemorrhage (SMH) is a significant cause of irreversible visual loss, and there are various techniques available to manage it, including pneumatic displacement with or without intravitreal tissue plasminogen activator (tPA), pars plana vitrectomy with subretinal tPA and gas tamponade, and submacular surgery with vitrectomy and retinotomy for clot extraction<sup>1</sup>.

In cases of massive SMH, pars plana vitrectomy (PPV) and injection of tPA into the subretinal space is generally the preferred treatment. This can be done by injecting tPA directly into the subretinal space or by creating a macular retinal detachment to deliver tPA through the same retinotomy<sup>2,3</sup>.

We present a case of an 85-year-old male with a single eye and a decrease in vision in his right eye over the past 3 days. He had a past ocular history of AMD with a disciform scar and EPR tear after anti-VEGF injection 4 years ago in the left eye. He had an extensive submacular hemorrhage secondary to AMD with a visual acuity of count fingers.

We decided to perform a PPV with subretinal tPA injection. After core vitrectomy and posterior hyaloid detachment, we first injected BSS into the subretinal space using a 38g cannula adapted in the viscous fluid control unit with a MicroDose injection kit (medOne).

Before injecting BSS into the subretinal space, it is important to reduce the intraocular pressure and reduce the pressure in the VFI system. It is important to check the flow before injection, as a low flow speed is sufficient to create a retinal detachment without the risks associated with a macular hole or damage to EPR.

After the subretinal BSS injection, we injected 0.2mL of tPA (25 $\mu$ m/0.1mL) solution into the subretinal space using the same retinotomy. A fluid-air exchange was performed, and the patient was instructed to lie down in a supine position for 20 minutes to increase the time for the tPA to act.

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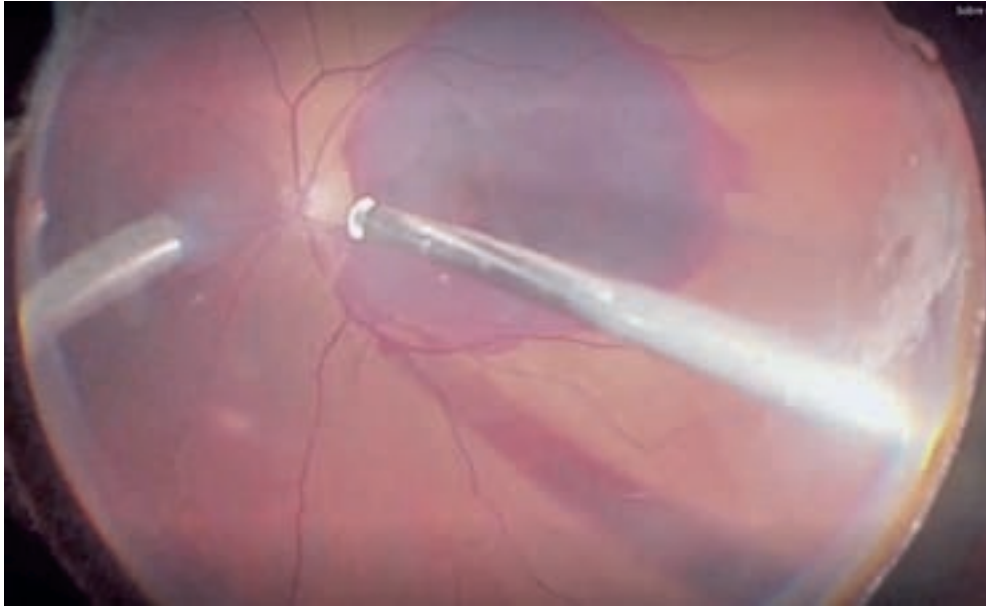
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