

Trypan blue staining pro

Authors: Ivan Fiser, Ivan Kolin, Prague, Czech Republic

Advantages:

Trypan blue stains not only the ILM but also the vitreous, the "ERM" (i.e. the layer of posterior hyaloid) and enables to distinguish between them. It facilitates the identification of the posterior hyaloid and the surgical PVD. It prevents from confusing the leaf of vitreoschisis for epiretinal membrane or ILM, thus it helps to understand the origin of various membrane structures on the retinal surface. It enables to identify and dissect the vitreous periphery - in case we prefer a complete vitrectomy to minimal surgery. It is useful in all macular syndromes, macular holes, or in diabetic vitrectomy, in ILM peeling as a prevention against pucker, etc.

Methods:

Trypan blue, preferably mixed with 5% glucose 1:1 can be injected after minimal vitrectomy, before the PVD, or thereafter, without fluid/air exchange, sometimes with the infusion off (to prevent from whirling in the vitreous cavity). It can be immediately easily aspirated. After the peeling of the first layer it can be reinjected for staining of possible additional tissue layers.

Effectiveness / Safety:

Staining of the structures mentioned is very good. If it is too faint (e.g. in DME), it can be reinjected or used under air (very rarely necessary). When used with the endoilluminator in a safe distance from the retina, no signs of phototoxicity were observed.

Take home message:

Use the Membrane blue not only to facilitate your surgery but also enables us to understand the various membranes on the retinal surface.