

Staining of Internal Limiting Membrane with Brilliant Blue G Under Air for Macular Hole Surgery

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Advantages:

We were used to injecting trypan blue under air for the same purpose.

We think that this technique is more efficient in ensuring optimal and adequate contact between the dye and ILM.

We found that ILM takes up stain more effectively with brilliant blue G compared to trypan blue. This is interesting as the duration of contact between ILM and brilliant blue G was less than 10 seconds whereas trypan blue was left to stain for at least 3 minutes.

Methods:

We describe the first two cases in our experience with brilliant blue G where it was injected under air to stain internal limiting membrane (ILM) prior to ILM peeling in macular hole surgery. The cases were performed by the first author, who is in the second year of his residence, and supervised by the second author, who is the supervising consultant.

Effectiveness / Safety:

Results: Case 1, a 70 year old Caucasian lady presented with 2-month history of reduced vision of her right eye, seeing 6/24. OCT showed Stage II macular hole. She underwent combined phacoemulsification and lens implantation with pars plana vitrectomy and internal limiting membrane. Posterior vitreous detachment was induced. Fluid to air exchange was performed and brilliant blue was injected carefully onto the posterior pole under air. Subsequent air to fluid exchange was performed. Internal limiting membrane peel was uneventful. One month postoperatively, the best-corrected visual acuity is 6/18. OCT shows macular hole closed. Case 2, a 73-year old Caucasian lady presented with 7-month history of reduced vision and distortion in her left eye, only managing counting fingers level of vision. OCT shows Stage 4 macular hole. She underwent combined phacoemulsification and lens implantation with pars plana vitrectomy and internal limiting membrane. One month postoperatively, the best-corrected visual acuity in her left eye is 6/18. OCT shows closure of macular hole. Conclusion: It is recommended by the manufacturer that brilliant blue G can be injected under water to stain ILM. However, given the first author's previous experience with trypan blue, we have adopted the staining under air technique. We have found that this technique is at least as equally effective and has not resulted in any adverse event and therefore recommend this as a safe alternative way of using brilliant blue G.