

Cryotherapy of Sclerotomy Sites May Increase the Risk of Late Post-Vitrectomy Diabetic Hemorrhage

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Advantages:

To present the disadvantages of cryotherapy of sclerotomy sites in prevention of late (after 4 weeks) post-vitrectomy diabetic hemorrhage. There is a hypothesis that cryotherapy of sclerotomy sites by preventing fibrovascular ingrowth may decrease the rate of post-vitrectomy diabetic hemorrhage. Based on a clinical trial, however, we reached to an opposite conclusion.

Methods:

After closure of the sclerotomy sites at the end of the vitreous surgery, we applied two cryotherapy spots at each sclerotomy site. The duration for each spot was up to 3 seconds after formation of the ice ball.

Effectiveness / Safety:

In a clinical trial comparing this procedure with no treatment, we found not only the ineffectiveness of this method but also its risky effect. The rate of vitreous hemorrhage up to 6 months was significantly higher in the eyes receiving cryotherapy (29.4%) compared to the controls (9.1%) ($P=0.035$). Fibrovascular ingrowth, detected by ultrasound biomicroscopy, was noticed in 46% and 30% of the cases and controls, respectively ($P=0.4$). Take home message: Cryotherapy of sclerotomy sites is not helpful for prevention of late post-vitrectomy diabetic hemorrhage and it may even increase the risk.