

The Snowstorm Technique: Triamcinolone Suspension in the Infusion Bottle

Author: Enrico Bertelli

Advantages:

Triamcinolone Acetonide (TA)-assisted vitrectomy has been first described in 2000, and has become popular among vitreoretinal surgeons. Vitreous staining properties of TA suspension in the conventional use improve visualization of vitreous fibers and vitreoretinal interface. However they offer limited information about vitrectomy flow, since dilutions reported in the literature rapidly sink onto the posterior pole after injection. Constant visualization of vitrectomy flow may increase safety of intraocular maneuvers with the vitrectomy handpiece. With the aim of visualizing vitreous flow we chose to inject triamcinolone suspension into the BSS infusion bottle.

Methods:

In 8 (eight) routine vitrectomy cases 80 mg Triamcinolone suspension were injected into the BSS infusion bottle after 30 min. sedimentation in the syringe and removal of overflowing fluid. The bottle was shaken, and then connected to the vitrectomy system immediately before starting vitrectomy. In 1 case one vial of commercially available Triamcinolone Acetonide gel for intravitreal use was injected into the BSS infusion bottle.

Effectiveness / Safety:

After TA injection BSS fluid became opaque in the bottle. In the posterior chamber TA suspension appeared as a fine "snowstorm", not impairing the visualization of the fundus. Vitreous staining properties of this highly diluted TA suspension were inferior to the one obtainable with conventional direct injection through sclerotomies of denser TA suspensions. However constant and direct visual information could be achieved about vitrectomy flow and turbulence at the tip of the vitrectomy probe, making vitrectomy safer, especially when approaching the vitreous base. With the help of the light probe, identification of the vitreous edge could also be obtained indirectly, beyond the enlightened turbulence in the BSS fluid. No complications related to the technique could be observed.