

Do Advances in Technology Improve Micro Incisional Vitrectomy Success ?

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Advantages:

Despite its clinical advantages, Micro Incisional Vitrectomy (MIVS) pose significant challenges in performing water-airtight incisions and in thick membranes removal due to the scarce tools efficiency. Improvement of MIVS instrumentation may allow overcoming these drawbacks. To assess the feasibility of performing MIVS using new instruments such as conjunctiva shifter, new sharper trocars and new model of forceps with increased grasp effectiveness.

Methods:

27 eyes of 24 patients affected by complications of Diabetic retinopathy undergone 23 gauge pars plana vitrectomy using Alcon one -step System. A triangularly shaped shifter was used to displace conjunctiva and sharper trocars were used in order to facilitate 23-g trocars one-step insertion. A new model of 23-g forceps, designed with a grasp end and a crocodile closure (called fusion forceps) was used during the surgery in addition to the standard forceps.

Effectiveness / Safety:

The displacer allowed the surgeon to displace the conjunctiva and to fix the globe using only one hand. The sharper trocars achieved a better self-sealing airtight incision. No sutures were placed at the end of the surgery. The fusion forceps achieved a better holding of the tissues to remove both thin and thick membranes in comparison with the standard one thus shortening the surgery time. No major complication were highlighted. In conclusion MIVS has still some limits due to available technology. As more advanced and sophisticated equipment have been manufactured, MIVS feasibility and success can improve.