

Combined phacoemulsification and 25 Gauge sutureless vitrectomy system in diabetic patients

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Purpose:

To evaluate the safety and efficacy after combining clear corneal phacoemulsification and posterior chamber IOL implantation with TSV25-gauge system in eyes with significant cataract and coexisting retinal disorders resulting from diabetic retinopathy.

Methods:

This prospective study consisted 15 eyes of 15 patients with various vitreoretinal disorders secondary to diabetic retinopathy and visually significant cataract. The vitreoretinal pathology were diabetic vitreous hemorrhage (VH) (7 cases), VH with tractional retinal detachment (5 cases), diabetic macular edema (3 cases). Three ports vitreoretinal surgery were performed using the TSV25-gauge system, trypan blue assisted peeling of the epiretinal membrane and internal limiting membrane, intraocular laser photocoagulation, air-fluid exchange and tamponading with SF6 or C3F8 were performed according to the various diseases stages. In all cases phacoemulsification and IOL implantation were performed before vitreoretinal surgery. Main outcome measures were pre- and postoperative visual acuity, intraocular pressure and number of secondary procedures and complications.

Results:

9 males and 6 females with a median age of 48 (range, 32 to 65) were followed for a median of 26 weeks (range, 19 to 36 weeks). The average increase in vision was 4.5 Snellen lines. Vitreous hemorrhage requiring another procedure occurred in 2 (13%) patients. None of the eyes converted to conventional 20-Gauge vitrectomy. Two eyes developed hypotony on postop. day one, resolved in one week. No sutures were required for the cataract and the vitreoretinal surgery.

Conclusion:

The combined TSV25-Gauge system and phacoemulsification with IOL implantation was safe and efficient in treating diabetic vitreoretinal disorders coexisting with cataract. Although the TSV25-gauge system cannot be used in all cases, it is less invasive, hastens the postoperative period, operating time and the postoperative inflammatory response. The addition of phacoemulsification did not prolong the vitreoretinal operative time nor increase the risk of intraoperative and postoperative complications significantly. Combined surgery allows early postoperative rehabilitation, prevents a second operation for postvitrectomy cataract.

