

CASE-SERIES STUDY OF 23-GAUGE SUTURELESS VITRECTOMY AND 20-GAUGE VITRECTOMY

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Background: Sutureless vitrectomy has rapidly become an essential element in vitreoretinal surgery. This study directly compared the relative operative safety and efficacy of the 20-gauge and 23-gauge vitrectomy systems in a regional hospital.

Methods: This study was a retrospective, comparative hospital-based study. Clinical data were collected from 120 consecutive vitrectomy cases undergoing either the 20-gauge system or the 23-gauge sutureless vitrectomy from January 2006 to December 2008. The main outcomes were postoperative conjunctival injection or pain, time of surgery, intraocular pressure (IOP), and surgery-related complications.

Results: Conjunctival injection and postoperative pain were significantly less following 23-gauge vitrectomy compared to 20-gauge procedure. The mean operation time was significantly shorter (218 *vs* 157 mins) in the 23-gauge group ($p=0.002$). The mean length of hospital stay was also shorter in the 23-gauge group (8.0 *vs* 4.6 days) ($p<0.001$). Postoperative day 1 IOP was better controlled in the 20-gauge group (95% *vs* 84%, $p=0.043$). For surgery-related complications, the recurrent retinal detachment rate was higher in patients with complicated retinal detachment treated with the 23-gauge system (9.1% *vs* 4.7%, $p=0.109$).

Conclusion: In our study, the 23-gauge system for par plana vitrectomy offers greater patient comfort postoperatively, shorter operation time and less hospitalization.

Keywords: transconjunctival sutureless vitrectomy, intraocular pressure; operating time; retinal detachment

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