

Commentary: Evolution of Vitrectomy as Day Care Procedure

Journey of vitrectomy started with Robert Machemer in 1971 who introduced vitrectomy with single port VISC (Vacuum, infusion, suction, and cutting). Subsequently, infusion, illumination, and cutter were separated by O Malley and Heinz who developed the first three port 20-G (0.9 mm) vitrectomy system in 1974. Size of the Machemer vitrectomy port was 17 G (1.42 mm). However, vitrectomy in pediatric age groups was a concern, and hence, the port size was further reduced to 25 G (0.57 mm) in 2002. With introduction of minimum invasive vitrectomy surgeries (MIVS) 23 G, 25 G, and 27 G, vitrectomy became sutureless, minimized inflammation, and reduced surgical time with good visual recovery.^[1-3]

Then came the idea of minimizing trauma due to regional anesthesia and its dreaded complications.^[4] 27-G trocar cannula produces very minimal pain under topical anesthesia with and without sedation where surgical time was reduced by 10–20 minutes. In cases such as endophthalmitis, vitreous hemorrhage, vitreous floaters, epiretinal membrane removal, and macular hole, 27 G and topical anesthesia^[3,4] have been tried successfully. TrojanHorse anesthesia,^[5] a novel idea of combining topical anesthesia with intracameral anesthesia for better patient comfort is preferred.

Then came the evolution in vitrectomy machines where sturdy equipments were replaced with lighter and compact machines. Innovation in cutters, electrical, and pneumatic cutters with high cut rate was possible even with this mobile, lighter, OPD-based vitrectomy machines. Hence, the idea of performing vitrectomies as office-based procedures under topical anesthesia evolved. Patients were comfortable and also psychologically the fear factor was reduced as it is done in minor operating theatre (OT). Results were good and there were no perioperative complications.

In developing countries like India where cost effectiveness is a concern, vitrectomies as office-based procedures under topical anesthesia should be highly beneficial. This results in reduction of OT time, minimizing cost and also complications but absolutely good visual recovery. Thus, vitrectomy could be a day care procedure in the near future and authors have described it well.

Kalpana Nagaraj Badami

Professor & Head VitreoRetina, Minto Regional Institute of Ophthalmology, Bangalore Medical College & Research Institute, Bengaluru, Karnataka, India

Correspondence to: Dr. Kalpana Nagaraj Badami, Professor & Head VitreoRetina, Minto Regional Institute of Ophthalmology, Bangalore Medical College & Research Institute, Bengaluru, Karnataka, India. E-mail: badamikal@gmail.com

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Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_1098_18

Cite this article as: Badami KN. Commentary: Evolution of Vitrectomy as Day Care Procedure. Indian J Ophthalmol 2018;66:1143.