

## Ophthalmic Microendoscope-Assisted Vitreoretinal Surgery in Various Etiologies

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### PURPOSE

To overcome some difficulties when standard operating microscopic viewing becomes limited or impossible due to visual axis obstruction or sudden miosis during conventional VRS and to assess the retroiridal region and peripheral retina in detail. As a result to enhance and extend the surgical control.

### METHODS

Between January 2000-December 2005, 50 eyes (50 patients) who had various vitreoretinal pathologies secondary to different etiologies were operated on by endoscope-assisted VRS. These etiologies were proliferative vitreoretinopathy (19 eyes), open globe trauma (10 eyes), lens dislocation (4 eyes), üveitis (6 eyes), proliferative diabetic retinopathy (6 eyes), hypotony secondary to cyclitic membrane (3 eyes), chronic endophthalmitis (2 eyes). When operating microscopic viewing was limited or impossible due to visual axis obstruction or we needed to evaluate the retroiridal space or to perform endocyclophotocoagulation, fused-fiber type endoscopic system was used during the VRS.

### RESULTS

The reasons for endoscopic assistance during VRS were the need for retroiridal imaging (50 eyes), endolaser application on peripheral retina (50 eyes), visually obstructive light reflections occurring during air / fluid exchange (40 eyes), lens opacification not requiring immediate lens extraction (20 eyes), acute intraoperative corneal haze (15 eyes), small or fixed pupil, sudden miosis (12 eyes), to detect cyclitic membrane (7 eyes) and retinal incarceration (4 eyes). OME allowed a clear view and to continue the VRS when anterior segment conditions precluded a posterior view. The OME allowed the surgeon to visualize the retroiridal space and easy endoscopic endolaser application around the peripheral retinal breaks and on the ciliary processes for associated glaucoma (5 eyes). It was useful to detect the tissue or retina incarceration into the wound or sclerotomy sites, and confirming correct pars plana infusion cannula placement when not visible microscopically.

### CONCLUSION

OME is very useful to safely complete vitrectomy when microscopic imaging becomes insufficient. It also permitted observation of microscopically inaccessible areas. OME is a complementary method to modern vitreoretinal surgical techniques.