

The prevalence of unified ERM-posterior vitreous cortex complex (“EVi” membrane) in diabetic eyes and idiopathic ERM

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Purpose: To present the prevalence of the unified epiretinal membrane (ERM) and posterior vitreous cortex (PViC; =posterior hyaloid) complex, or “Evi” membrane, in eyes with either idiopathic ERM or in ERM associated with diabetic macular edema (DME), as detected by a spectral-domain optical coherence tomography.

Methods: A retrospective study on consecutive patients with ERM and incomplete posterior vitreous detachment (PVD). Excluded from analysis were eyes that had undergone vitreoretinal intervention or that had complete PVD or complete vitreous attachment.

Results: Of 44 eyes with DME and ERM, the PViC was incompletely detached in 23 eyes (52.3%), either from the macula or from the optic nerve head. A hyperreflective unified ERM / PViC membrane, or “EVi” membrane, was apparent by the OCT video clips in various sizes, in 20 (87.0%) of the 23 eyes. This “EVi” membrane was associated with vitreopapillary adherence in 19 (of 20, 95%) eyes. Stand-alone ERM without unification with the PViC was found in 2 (8.7% of 23) eyes

Of 31 eyes with idiopathic ERM, the PViC was incompletely detached in 9 eyes (29.0%). The ERM was united with the PViC as an “EVi” membrane in 6 (66.7%) of the 9 eyes (19.3% of all 31 eyes), and each was associated with vitreopapillary adherence. As well, ERM was adherent to the papillary site in other 15 (48.4% of 31) eyes, and stand-alone ERM with neither unification with the PViC nor adherence with the papillary site was found in the remaining 10 (32.3%) eyes.

Conclusions: In eyes with ERM and detectable, incompletely detached PViC, the presence of a unified ERM / PViC complex or “Evi” membrane is relatively common. If verified it may explain some of the ERM characteristics and may have clinical importance in the context of ERM removal.

Biography

Prof. Avinoam Ophir has completed his M.D. studies at Hadassah Medical School in Jerusalem. After completion the Residency in Ophthalmology at that Hadassah Medical Center he did a Research Retina fellowship in Bascom Palmer Eye Institute in Miami. There he did together with another young doctor, Dr. Mark Blumenkranz, the original study on the inhibition of postoperative intraocular scar formation by 5-FU. Dr. Ophir returned to Hadassah, where he continued a fruitful clinical research on antimetabolites following glaucoma filtering surgery, meanwhile he published a novel, highly efficacious modified trabeculectomy operation using the tunnel approach, the “mini-trabeculectomy”, and also continued to do retinal research. Since 1993 he is the chairman of the Division of Ophthalmology at the Hillel-Yaffe Medical Center in Hadera, Israel. Since 2002, after purchasing the first OCT in Israel, his main research focuses on diffuse macula edema. Prof. Ophir and his colleagues published several articles on that issue, mainly associated with extrafoveal traction as a common cause of diffuse macular edema in diabetic retinopathy, retinal vein occlusion and pseudophakia. He recently described in IOVS the direct continuation between the ERM and the posterior hyaloid in diabetic macular edema, a finding that merits important clinical significance.