

Abstract 230

REMOVING EPICILIARY MEMBRANES TO PREVENT PHTHISIS

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Hypotony following retinal detachment repair may be addressed with prompt surgical intervention. For years various nonsurgical and surgical procedures have been proposed to address this problem. However, visual and anatomical outcomes have historically been poor. We hypothesize that earlier detection with improved diagnostics (ie, ultrasound biomicroscopy), use of intraoperative 3D visualization, and bimanual dissection of epiciliary proliferative tissue (which is often the root cause of hypotony after RD surgical repair) has the potential to salvage eyes that are otherwise destined to become phthisical. Epiciliary membrane is an unspecified term describing proliferative tissue formation that usually occurs after multiple attempts at RD repair in the setting of proliferative vitreoretinopathy (PVR).

Prompt detection and surgical intervention is crucial to restore aqueous production and increase IOP to potentially revive a percentage of affected eyes. The goals of surgery include: 1) releasing traction on the ciliary body, freeing the ciliary processes from compartmentalization to restore aqueous production 2) freeing the ciliary processes from fibrous tissues that leads to their irreversible functional damage, and 3) lysing the iris-ciliary processes synechiae, which further compromise aqueous production.

This surgical approach, according to our data, results in a 3- to 5-mmHg increase in IOP, which can suffice to raise IOP to higher than 8 mm Hg for approximately one-third of eyes. Another one-third remain hypotonous with IOP between 3 mm Hg and 5 mm Hg, which can still prolong the eye's viability and volume with some ambulatory vision. The remaining one third will likely progress to phthisis, despite intervention

Today's improved capabilities of early detection, 3D Intraoperative visualization, and improved instrumentation/surgical techniques make epiciliary membrane removal worth undertaking to attempt to preserve visual and anatomical function.