

The Pathogenesis of Raised Intraocular Pressure in Uveitis

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AIM: To analyze current understanding of the factors that contribute to raised intraocular pressure (IOP) in patients with uveitis.

METHODS: A pubmed literature review was carried out using words including "uveitic glaucoma", "IOP AND uveitis", "ocular hypertension AND uveitis", "inflammation AND glaucoma", "aqueous dynamics" AND "glaucoma/uveitis".

RESULTS: Of the two studies looking at the aqueous dynamics in experimentally induced uveitis, both found aqueous flow decreased acutely, and one found that uveoscleral outflow increased. This is likely to reflect the types of uveitis that present acutely with hypotony. A study examining patients with Fuch's heterochromic cyclitis found no difference in aqueous flow or uveoscleral outflow. No studies have examined aqueous dynamics in types of uveitis that present with acutely raised IOP. Levels of prostaglandins rise in acute uveitis, which has been shown to increase uveoscleral and trabecular outflow, without affecting aqueous flow. Studies have demonstrated that raised levels of trabecular protein reduce trabecular outflow. Steroid treatment, inflammatory cells, free radicals and enzymes are also likely to contribute to the development of raised pressure. When considering the impact of the pathogenesis of raised pressure in uveitis on its treatment, prostaglandins may provide good intraocular pressure control, but there are concerns regarding their theoretical ability to worsen the inflammatory response in uveitis. Studies have not conclusively proven this to be the case. Surgical success rates vary, but trabeculectomy plus an antimetabolite, deep sclerectomy plus an antimetabolite, and Ahmed valve surgery have been used.

CONCLUSIONS: Uveitic glaucoma is caused by a number of different diseases, some of which present with acute hypotony, others with acutely raised IOP, and others which demonstrate an increase in IOP over time. Further studies should be carried out to examine the differing pathogenesis in these types of diseases, and to establish the best treatment options.

KEYWORDS: Glaucoma; intraocular pressure; ocular hypertension; uveitic glaucoma; uveitis

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