Treatment Outcomes in Malignant Glaucoma

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PURPOSE: To report treatment outcomes in malignant glaucoma.

DESIGN: Retrospective case series.

PARTICIPANTS: Twenty-eight eyes of 26 patients who were treated for malignant glaucoma between 1991 and 2009.

METHODS: Malignant glaucoma was diagnosed based on the presence of a shallow or flat central and peripheral anterior chamber in the presence of patent iridotomy, with intraocular pressure (IOP) of 22 mmHg or more after any intraocular surgery. The treatment algorithm included antiglaucoma medications and cycloplegics as first-line methods; the second-line therapy in pseudophakic eyes was laser hyaloidotomy, followed by vitrectomy-hyaloidotomy-iridectomy (VHI) or transscleral cyclophotocoagulation (TSCPC).

MAIN OUTCOME MEASURES: Resolution was defined as deepening of the central anterior chamber and IOP of 21 mmHg or less (on 2 successive follow-ups at least 1 week apart) with or without topical antiglaucoma medications in the absence of systemic antiglaucoma medications.

RESULTS: At the diagnosis of malignant glaucoma, 5 eyes were phakic and 23 were pseudophakic. The preceding surgeries were trabeculectomy (11 eyes), cataract surgery (10 eyes), and combined cataract and glaucoma surgery (7 eyes). Mean IOP decreased from 34±8.3 mmHg at presentation to 14.3±5.2 mmHg at the last visit (P<0.001). Resolution of malignant glaucoma was seen in 27 eyes (27/28; 96%), 17 eyes resolved with 1 intervention, and 10 eyes required repeat procedures. Of the 27 eyes whose disease resolved, this result was achieved in 4 eyes with medical treatment, in 7 pseudophakic eyes with laser hyaloidotomy, in 4 eyes with VHI, and in 12 eyes with TSCPC. The median duration of follow-up was 192 days (interquartile range, 35-425 days). There was no difference in the visual acuity at presentation and at the final visit in 14 eyes. Eight eyes gained 2 lines or more and 6 eyes lost 2 lines or more of visual acuity.

CONCLUSIONS: Malignant glaucoma can be managed successfully by appropriate and timely interventions. Medical treatment was beneficial in phakic eyes, laser hyaloidotomy was beneficial in pseudophakic eyes, and vitrectomy and TSCPC were beneficial in refractory cases. A stepladder approach to treatment was successful (96%) in this series.

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