Intravitreal bevacizumab improves trabeculectomy survival at 12 months: the bevacizumab in trabeculectomy study-a randomised clinical trial

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AIMS: To evaluate the effect of an intraoperative dose of intravitreal bevacizumab (Avastin) on surgical success following trabeculectomy with mitomycin-C (MMC) over 12 months.

METHODS: A single centre, parallel, double-blinded randomised, placebo-controlled trial recruiting patients requiring trabeculectomy for progressing glaucoma. Patients were randomised to intravitreal bevacizumab or placebo.

MAIN OUTCOME MEASURE: The primary outcome of treatment success was defined by 'complete success' when intraocular pressure (IOP) remained less than a predefined target IOP without the requirement of topical medication, or 'qualified success' where topical medication was required to meet the predefined target IOP threshold. Secondary outcomes included the need for subsequent IOP-lowering interventions, and structural parameters associated with bleb function.

RESULTS: From 131 patients randomised to bevacizumab (n=65) or placebo (n=66) , 128 patients completed 12 months of follow-up (98%) . At 12 months, success rates were higher in the bevacizumab group (complete success: 94% vs 83%; p=0.015; qualified success: 98% vs 90%; p=0.033) . Within the placebo group, the requirement for topical therapy was higher at 6 months (p=0.045) and 12 months (p=0.045) , and the requirement for bleb needling was higher at 1 month (p=0.035) . Blebs within the bevacizumab group were larger at 1 month (pCONCLUSION: Bevacizumab given as a single intravitreal dose during trabeculectomy with MMC resulted in improved surgical success as 12 months. Furthermore, bevacizumab was associated with a significant reduction in the need for additional medication or further surgery to achieve target IOP. Bevacizumab was also associated with larger blebs that were less inflamed and required fewer subsequent interventions.

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