



Title	Bevacizumab for 1. Age-related Macular Degeneration 2. Diabetic Retinopathy
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Aim

To undertake a systematic review of the effectiveness, safety, and cost effectiveness of bevacizumab in treating age-related macular degeneration (AMD) and diabetic retinopathy (DR).

Conclusions and results

The evidence suggests that bevacizumab is effective in treating AMD. However, the evidence was only of poor to fair quality, and the studies were of short duration. Fair evidence showed that bevacizumab was more effective compared to verteporfin photodynamic therapy for patients with minimally classic or occult choroidal neovascularization due to AMD.

Poor- to good-quality evidence was retrieved on the efficacy of bevacizumab for diabetic retinopathy. Good evidence showed that bevacizumab was more efficacious in patients with clinically significant diabetic macular edema compared to macular photocoagulation or combined therapy with intravitreal triamcinolone. Good evidence showed that bevacizumab treatment given after phacoemulsification and intraocular lens implantation reduced diabetic retinopathy progression. Fair evidence suggested that preoperative treatment with bevacizumab was beneficial for patients undergoing pars plana vitrectomy.

There was evidence to show that bevacizumab was more cost effective, compared to other treatment modalities, in managing AMD. There was no evidence on the cost effectiveness of bevacizumab for DR. Also, there was evidence to support the safety of bevacizumab in managing AMD and DR, but caution should be taken with high-risk patients.

Recommendations

Intraocular bevacizumab can be used selectively in patients with predominantly classic, minimally classic, or occult choroidal neovascularization due to AMD, and in patients with diabetic macular edema. However, caution needs to be taken in high-risk patients with a

history of ischemic heart disease or thromboembolic events.

Methods

Electronic databases were searched for published literature addressing the use of intravitreal bevacizumab in treating AMD and DR. The databases searched included MEDLINE, PubMed, EBM Reviews-Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, HTA Databases, EBM Reviews-NHS Economic Evaluation Database, and DARE. Additional articles were identified from reviewing the bibliographies of retrieved articles and hand searching of journals. Further information was sought from unpublished reports. The search was limited to human studies. Quality of the papers was assessed using checklists from the Critical Appraisal Skills Programme (CASP), and evidence was graded according to US/Canadian Preventive Services Task Force Levels of Evidence.

Further research/reviews required

More clinical research is warranted for other indications, eg, proliferative diabetic retinopathy.