Long Term Outcomes for Patients Treated for Macular Oedema Secondary to Retinal Vein Occlusion: A Systematic Review.

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INTRODUCTION

Retinal vein occlusion (RVO) is the second commonest retinal vascular cause of visual loss after diabetic retinopathy (1). Macular oedema (MO) follows RVO in most patients, and even unilateral BRVOs affect quality of life.

AIM

To synthesise published treatment outcomes after 2-5 years of intravitreal injections for patients with MO caused by RVO, capturing data from both clinical trials and real world settings.

METHODS

After creation of inclusion and exclusion criteria, an electronic search was conducted of Medline, Embase, Cochrane and Web of Science to identify potentially eligible studies. After screening, preset data were extracted, including best corrected visual acuity (BCVA) and central retinal thickness (CRT), both at baseline, and after 2, 3, 4 and 5 years if data were available. Risk of bias was assessed. Data were analysed using SPSS.

Compared separately were: RVO types, treatment given and study types (RCT vs non-RCTs).

RESULTS

There were 48 eligible studies. If studies gave data for different RVO or treatment types, these were analysed separately, resulting in 76 data sets and 10775 participants. Not all studies had data at each timepoint.

RVO Type. At 5 years, mean BCVA improved from baseline by 15.6 letters in CRVOs (p<0.01) and 16.2 in BRVOs (p=0.01). Mean CRT decreased by 254.2µm in CRVOs (p=0.01) and 147.8µm in BRVOs (p=0.02).

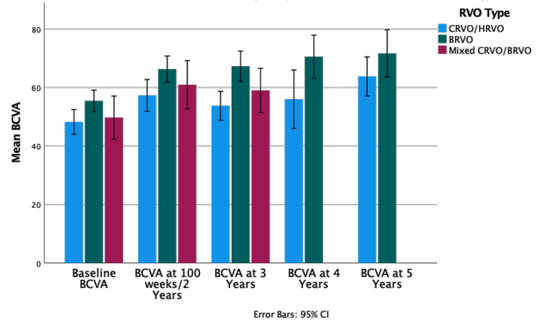


Figure 1: Mean BCVA from baseline to five years post initial treatment for each RVO type.

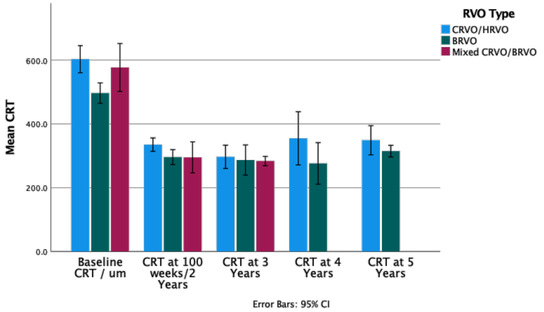


Figure 2: Mean CRT from baseline to five years post initial treatment for each RVO type.

Treatment Given. At 3 years, BCVA improved, from baseline, by 11.2 letters (p<0.01) for ranibizumab only groups and by 6.3 letters (p=0.55) for dexamethasone only. There were insufficient data beyond 2 years for other treatments. Mean CRT decreased at 3 years in both the ranibizumab and dexamethasone patients by 273µm (p=0.45) and 210µm (p=0.02)

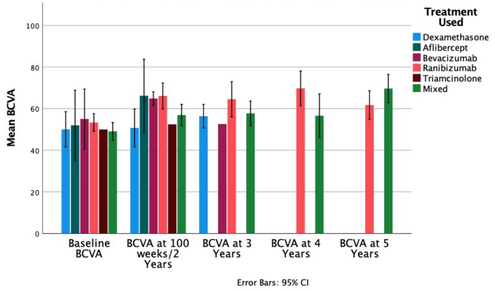


Figure 3: Mean BCVA from baseline to five years post initial treatment for each treatment given.

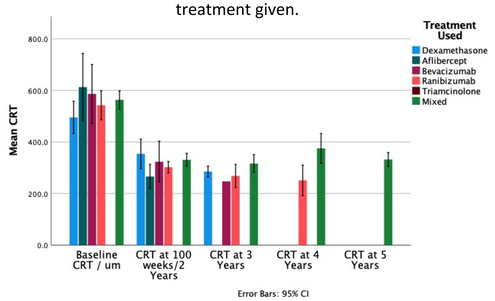


Figure 4: Mean CRT from baseline to five years post initial treatment for each treatment given.

RCTs vs Non-RCTs. At 4 years, BCVA improved by 13.6 letters in RCTs (p=0.11) and 10 letters in non-RCTs (p<0.01). Mean CRT decreased by 366µm in RCTs (p=0.13) and 196.8µm in non-RCTs (p<0.01).

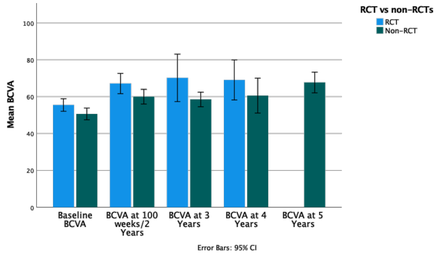


Figure 5: Mean BCVA from baseline to five years post initial treatment comparing RCTs and Non-RCTs.

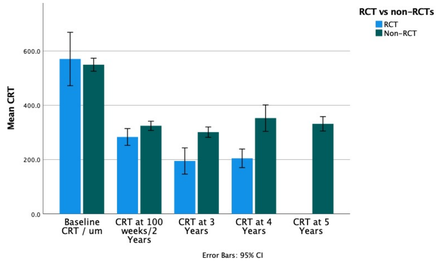


Figure 6: Mean CRT from baseline to five years post initial treatment comparing RCTs and Non-RCTs.

CONCLUSION

These results provide evidence of benefit of long term intravitreal treatments for MO due to RVO, and thus help to counsel patients. The strengths of this study include the inclusion of RCTs and non-RCTs. Real world outcomes sometimes struggle to emulate those of RCTs, but these data suggest that in the real world, good long term outcomes are possible. Quality of life and cost effectiveness should not be neglected in long term studies.

REFERENCES

(1) Awdeh RM, Elsing SH, Deramo VA, Stinnett S, Lee PP, Fekrat S. Vision-related quality of life in persons with unilateral branch retinal vein occlusion using the 25-item National Eye Institute Visual Function Questionnaire. Br J Ophthalmol. 2010;94(3):319-23.

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