

Plenary Lecture 3

Speaker: Prof. Mark Gillies

Tracing real world data for eye diseases: The 'Fight Retinal Blindness!' project



According to the MARINA study, intravitreal ranibizumab administered for 2 years prevented vision loss and improved mean visual acuity (with low rates of serious adverse events) in patients with minimally classic or occult (with no classic lesions) choroidal neovascularization (CNV) secondary to age-related macular degeneration (AMD).¹

What are the results of anti-VEGF treatment in the real world?

To answer this question, Professor Mark Gillies, Director of Macula Research Group and Professor of Ophthalmology in University of Sydney, Australia, presented the 'Fight Retinal Blindness!' project to delegates of the recently held 31st Malaysia-Singapore Joint Ophthalmic Congress (MSJOC) in Pullman Kuching, Sarawak, Malaysia.

In Australia, retinal disease is the most common cause of blindness with advanced macular degeneration accounting for around 40,000 new cases of blindness per year. But there is hope in the new range of treatment options available. The Save Sight Institute of the University of Sydney's Macular Research Group has created a new application that tracks the effectiveness of these treatment options.

As highlighted by Prof. Gillies, the Fight Retinal Blindness! project is an online scientific database for ophthalmic conditions. The software (FRB system) is designed as a basic anonymized patient data management system that is compatible with data entry in routine clinical practice (baseline visit entry: 30 seconds; follow-up visit entry: 15 seconds). The software, noted Prof. Gillies, can generate graphs "on the fly" of vision, treatment and choroidal neovascularization (CNV) activity over time; including a self-audit tool.

Notable research findings from this project have shown that:

- Stopping treatment for neovascular AMD (nvAMD or CNV) almost always results in recurrence sooner or later
- Recurrence after stopping treatment (being inactive for 3 months after last injection) happens in 92% of patients within 2 years
- A major analysis finds good outcomes from "treat and extend"

'Treat and extend', according to Prof. Gillies, is a treatment regimen whereby the clinician starts extending treatment (injecting less frequently) when a lesion becomes inactive on monthly injections (no fluid, no hemorrhage and stable visual acuity). The physician then keeps extending (lengthening the injection interval) by 1-2 weekly intervals until the lesion reactivates. Then the physician drops back to previous treatment intervals, and can try to extend again later on.

Data from the two-year outcomes of "treat and extend" intravitreal therapy for nvAMD (study conducted by the Fight Retinal Blindness Study Group) indicates that eyes managed in routine clinical practice with a treat and extend regimen can achieve good visual outcomes while decreasing the burden of treatments and clinic visits.²

A database observational study³ which analyzed eyes with nvAMD started on VEGF inhibitors at least 5 years earlier showed good long-term outcomes. The research team noted that their results may be better than other reports because more injections were given to patients. However, further studies are needed to determine how to maximize the proportion of eyes that retain the initial VA gains of anti-VEGF used.

In conclusion, Prof. Gillies noted that data collected through the FRB system provides evidence for real world effectiveness of existing and new treatments. Also, it highlights treatment patterns that lead to the best outcomes, facilitates performance benchmarking for clinicians and assists in patient education and compliance with treatment. New modules in diabetic macular edema and keratoconus are now included in the FRB system.

References:

1. Rosenfeld PJ, Brown DM, Heier JS, et al; MARINA Study Group. Ranibizumab for neovascular age-related macular degeneration. *N Engl J Med.* 2006;355(14):1419-1431.
2. Arnold JJ, Campain A, Barthelmes D, et al; Fight Retinal Blindness Study Group. Two-year outcomes of "treat and extend" intravitreal therapy for neovascular age-related macular degeneration. *Ophthalmology.* 2015;122(6):1212-1219.
3. Gillies MC, Campain A, Barthelmes D, et al; Fight Retinal Blindness Study Group. Long-Term Outcomes of Treatment of Neovascular Age-Related Macular Degeneration: Data from an Observational Study. *Ophthalmology.* 2015;122(9):1837-1845.