Reversal of visual loss trend in non-responders to Ranibizumab with Aflibercept switch in wet age-related macular degeneration

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**Statement of the Problem:** Anti-VEGF therapy with ranibizumab has proved efficacious in the majority of patients with exudative or wet age-related macular degeneration (WAMD). However, in considerable proportion of patients the choroidal neovascular membrane activity stops responding to continued treatment after a period of time. These are referred to as non-responders. A change of the drug to another anti-VEGF aflibercept could offer an alternative option for the treatment of non-responding WAMD with improved outcome.

**Methods & Materials:** Patients with WAMD in a single institution in UK who switched therapy from ranibizumab to aflibercept during 12 months period in 2016 were included in this retrospective study. Visual acuity (VA) and foveal thickness 6 months before switch, at time of switch and 4 months after the switch of therapy were compared. Patients who switched therapy due to previous endophthalmitis with ranibizumab, non-AMD diagnosis, more convenient dosing schedule and frequent injectors were excluded.

**Results:** A total of 46 eyes of 45 non-responders were identified. Mean age 79.8, 27 females. VA declined by mean of 0.11 logMAR before switch. VA improved by mean 0.07 logMAR after switch. 2-tailed paired student t-test shows p=0.001 which is statistically significant improvement. Mean reduction in central macular thickness was 98 micron.

**Conclusions:** Switching a sub-optimally responsive WAMD patient from one anti-VEGF treatment to an alternative can show an increase in efficacy. Our results support this stance but larger numbers of data would be needed and a longer follow-up is required to have a better idea of results achieved. There is evidence of improvement or stabilization from switching anti-VEGF in patients who show tachyphylaxis or an incomplete response.

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