Preventing Recurrent and New Submacular Haemorrhage in Age-related Macular Degeneration: Insights from the IVAN Trial

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Background

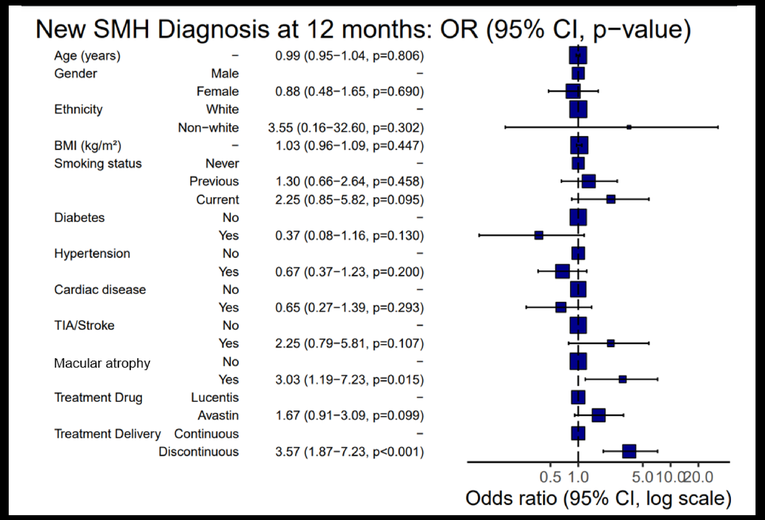
- Submacular haemorrhage (SMH) is an occasional but significant occurrence in patients being treated with anti VEGF agents with neovascular age-related macular degeneration (nAMD)
- Previous review of data from the IVAN trial showed a higher prevalence of submacular haemorrhage at baseline in older patients, with worse vision on presentation but no significant difference in vision by month 12 of treatment[1]
- Ranibizumab treatment has been shown to decrease incidence of submacular haemorrhage[2],; however other than this the incidence and risk factors for submacular haemorrhage occurrence in patients receiving treatment for nAMD are ill-defined.
- We aimed to identify factors associated with new or recurrent SMH in patients enrolled in the IVAN trial being treated with anti-VEGF agents.

Key Findings

- SMH occurrence during the study period was not associated with SMH at baseline (OR 0.75, *P*=0.36)
- Macular atrophy in the study eye (OR 3.03, HR 2.51, *P*=0.015) and as-required anti-VEGF treatment (OR 3.57, HR 3.15, *P*<0.001) were associated with the risk of SMH occurrence or recurrence.

Atrophy within the macula and as-required anti-VEGF treatment delivery increased the risk of SMH occurrence or recurrence in patients with nAMD during the first year of therapy

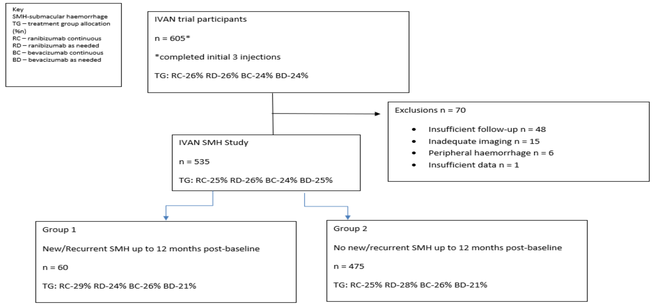
Regular anti-VEGF therapy may reduce the risk of submacular haemorrhage during the first year of treatment, especially in eyes with macular atrophy



Inhibit **V**EGF in **A**ge-related Choroidal **N**eovascularisation

Methods

- Retrospective analysis of data from a multicentre randomised controlled trial evaluating intravitreal ranibizumab and bevacizumab, monthly and as-required administrations for the treatment of nAMD
- 605 participants were enrolled
- Multivariable logistic and Cox regressions were used to identify factors associated with new and recurrent SMH in this population
- Macular atrophy was defined as the presence in the study eye of regions of atrophy within the neovascular lesion, or if features of classic geographic atrophy were present outside the region occupied by the neovascular lesion



Results

- 535 participants were analysed after exclusions due to missing data.
- SMH was present at baseline in 286 (53%).
- SMH occurred in 60 patients during the first year of follow-up (11%) – 30 of these were in patients who had SMH at baseline, and 30 in patients without SMH at baseline

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3. Ying GS, Maguire MG, Daniel E, Grunwald JE, Ahmed O, Martin DF; Comparison of Age-Related Macular Degeneration Treatments Trials Research Group. Association between Antiplatelet or Anticoagulant Drugs and Retinal or Subretinal Hemorrhage in the Comparison of Age-Related Macular Degeneration Treatments Trials. Ophthalmology. 2016 Feb;123(2):352-360. doi: 10.1016/j.ophtha.2015.09.046. Epub 2015 Nov 4. PMID: 26545320; PMCID: PMC4724480.