Comparison of three-year outcomes of photodynamic therapy combined with intravitreal ranibizumab or aflibercept for polypoidal choroidal vasculopathy in a British cohort

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Background

- Polypoidal choroidal vasculopathy (PCV) is an exudative maculopathy commonly seen in East Asian populations
- It represents 8.7% of Caucasians with suspected wet age-related macular degeneration (AMD)
- Indocyanine-green angiography (ICG-A) is not routinely performed at the outset -> diagnostic confusion
- Multiple studies also concluded that combination therapy of PDT with either intravitreal ranibizumab (IVR) or intravitreal aflibercept (IVA) could deliver favorable outcomes

Questions

Which agent provides superior outcome for performing combination therapy?

Method

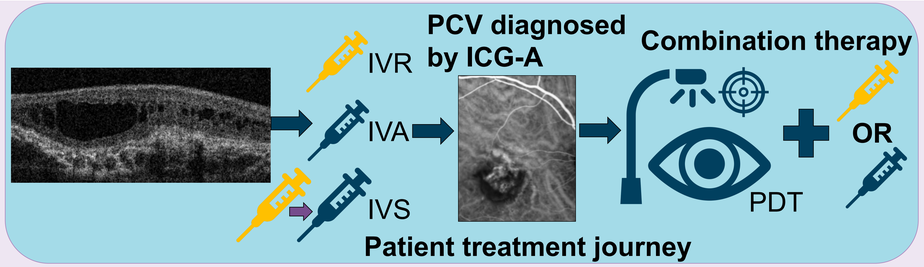
- A retrospective, non-interventional analysis to report the real-world outcomes of combination therapy of PDT with different anti-VEGF agents in a British PCV cohort

Outcome

- Change of mean number of anti-VEGF injections required/year (Treatment burden)
- Change of best-corrected visual acuity (BCVA)

Stratification

- Based on the anti-VEGF agent used, the eyes were stratified into three groups
  - Aflibercept (IVA) vs Ranibizumab (IVR) vs switch from ranibizumab to aflibercept (IVS)



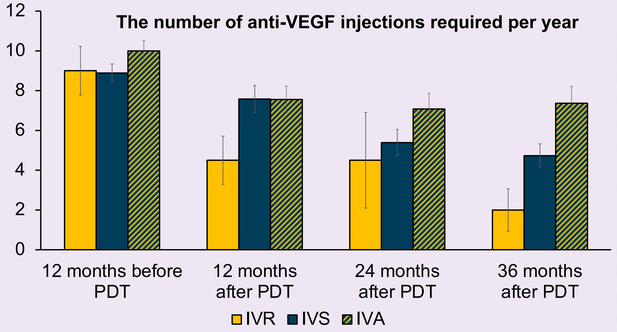


Figure. 1 The number of anti-VEGF injections required per year (mean ± standard error of the mean) 12-months before PDT, and at 12-months, 24-months and 36-months after PDT. The mean number of anti-VEGF injections required over 12-, 24-, 36-months after PDT were all significantly less than that over the 12-months before PDT in all three groups (IVR: p=0.017, 0.005, 0.001, respectively; IVS: p=0.147, 0.001, 0.001, respectively; IVA: p=0.005, 0.001, 0.001, respectively).

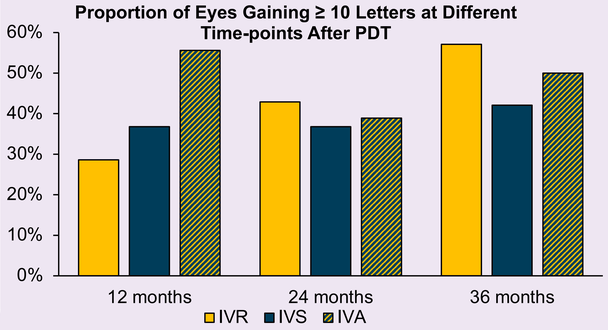


Figure. 2 The proportion of eyes with BCVA gain of ≥ 10 EDTRS letters at 12-, 24- and 36-months follow-up after PDT (p=0.360, 0.961, 0.768).

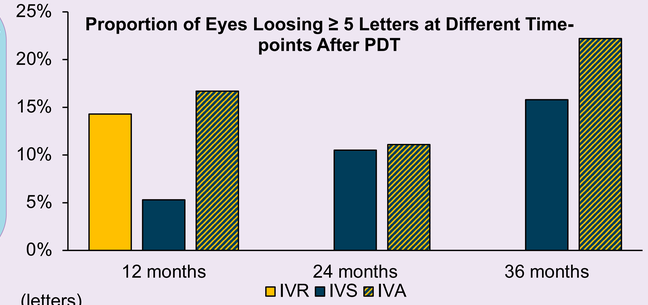


Figure. 3 The proportion of eyes with BCVA dropping by ≥ 5 EDTRS letters at 12-, 24- and 36-months follow-up after PDT (p=0.532, 0.658, 0.394)

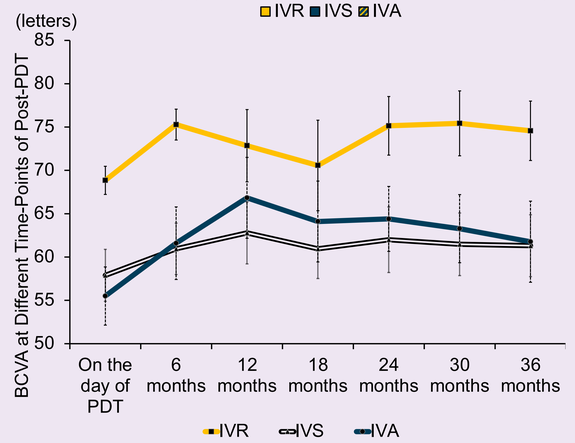


Figure. 4 Mean BCVA in ETDRS letters (mean ± standard error of the mean) of the three groups on the day of PDT, and at 6-, 12-, 18-, 24-, 30- and 36-months follow-up after PDT. BCVA improved in all groups at different time points compared to BCVA on the day of PDT, but the improvements were not statistically significant in all time-point after 12-months of PDT (The P values between the BCVA on the day of PDT and each time point were: IVR, 0.01, 0.308, 0.711, 0.096, 0.087, 0.33; IVS, 0.029, 0.006, 0.047, 0.017, 0.035, 0.042; IVA, 0.044, 0.010, 0.033, 0.02, 0.065, 0.112)

Conclusion

- Both IVR and IVA in combination with PDT were effective treatments for PCV; the choice of agents may not impact outcomes in long term.
- Performing PDT promptly may reduce anti-VEGF treatment burden and patient clinic visits
- In eyes refractory to anti-VEGF monotherapy, switching agent may not always be beneficial

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