

Introduction

Age-related macular degeneration, or AMD, is a leading cause of blindness in developed countries.

Intravitreal Aflibercept is approved in the treatment of **neovascular age-related macular degeneration** (AMD). The duration of its effect is higher than Ranibizumab and Bevacizumab but the effectiveness in patients who do not respond to these treatments is unknown.

Purpose

Evaluate the efficacy of intravitreal Aflibercept on visual acuity (BCVA) and central retinal thickness (CRT) in refractory AMD.

Results

A total of **27 eyes from 24 patients** were included, 20 of them were females. The median age was 76.98 ± 9.9 years old. The 12,5% of the patients received bilateral treatment.

The 22.2% of the eyes were previously treated with photodynamic therapy (PDT), 70.4% with Ranibizumab (average 7.5 injections/eye, range 2-24) and 77.8% with Bevacizumab (average 8 injections/eye, range 1-33). The 52% of the eyes received both Ranibizumab and Bevacizumab.

The average of Aflibercept injections per eye was 3.3 (1-10). In the 63% of the eyes there was an increase of BCVA, the 7.5% of the eyes maintained previous BVCA and the 29.6% lost vision. ETDRS before and after treatment was 60.4 ± 2.5 vs 62.3 ± 3.2 letters ($p = 0.0504$). The 89% of eyes experiment a decrease in the CRT measured by OCT, 324.9 ± 22.2 vs $245.5 \pm 13.4 \mu$ ($p < 0.01$).

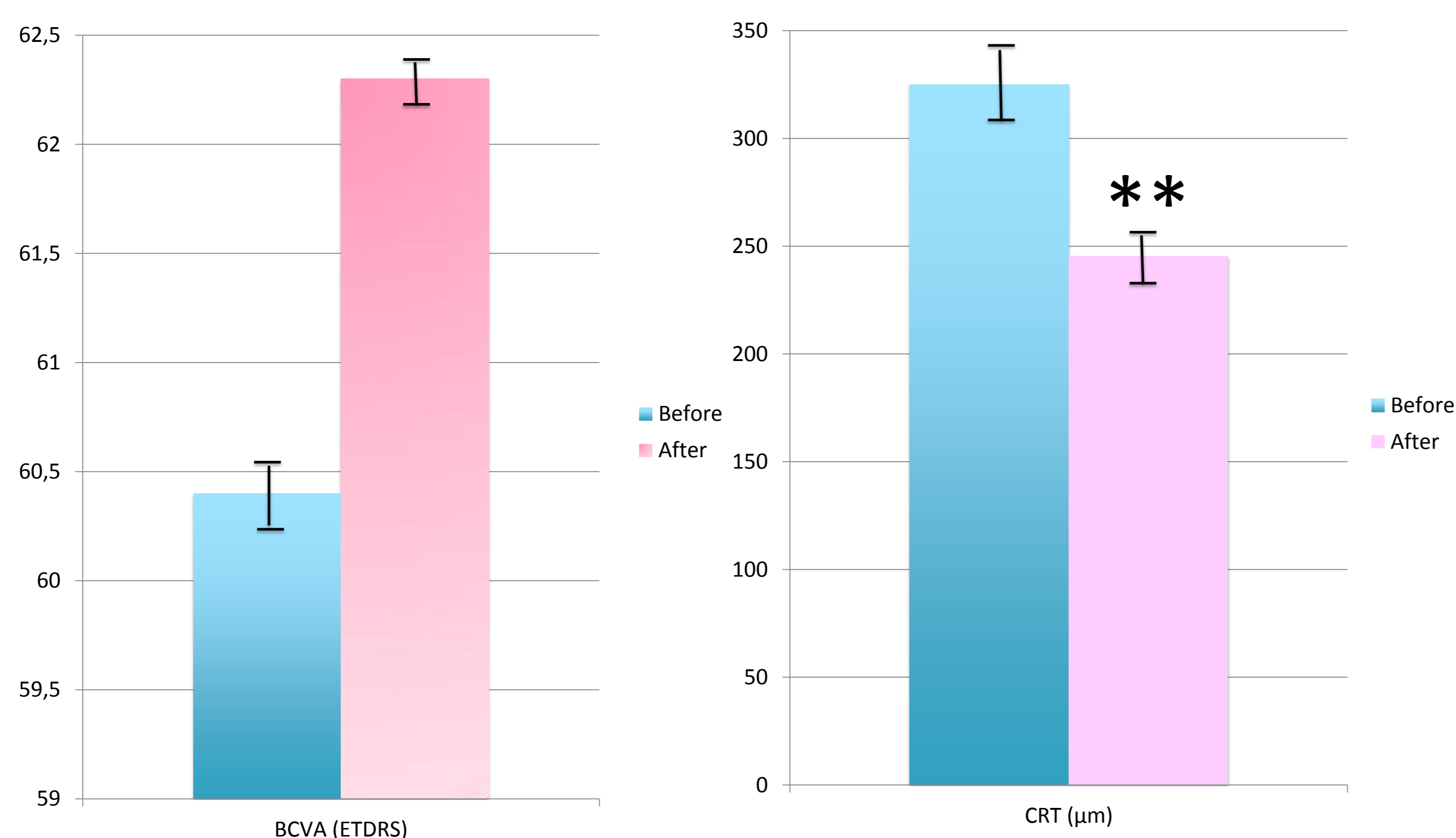


Figure 1. Mean differences in best corrected visual acuity (BCVA) before and after the treatment with intravitreal aflibercept.

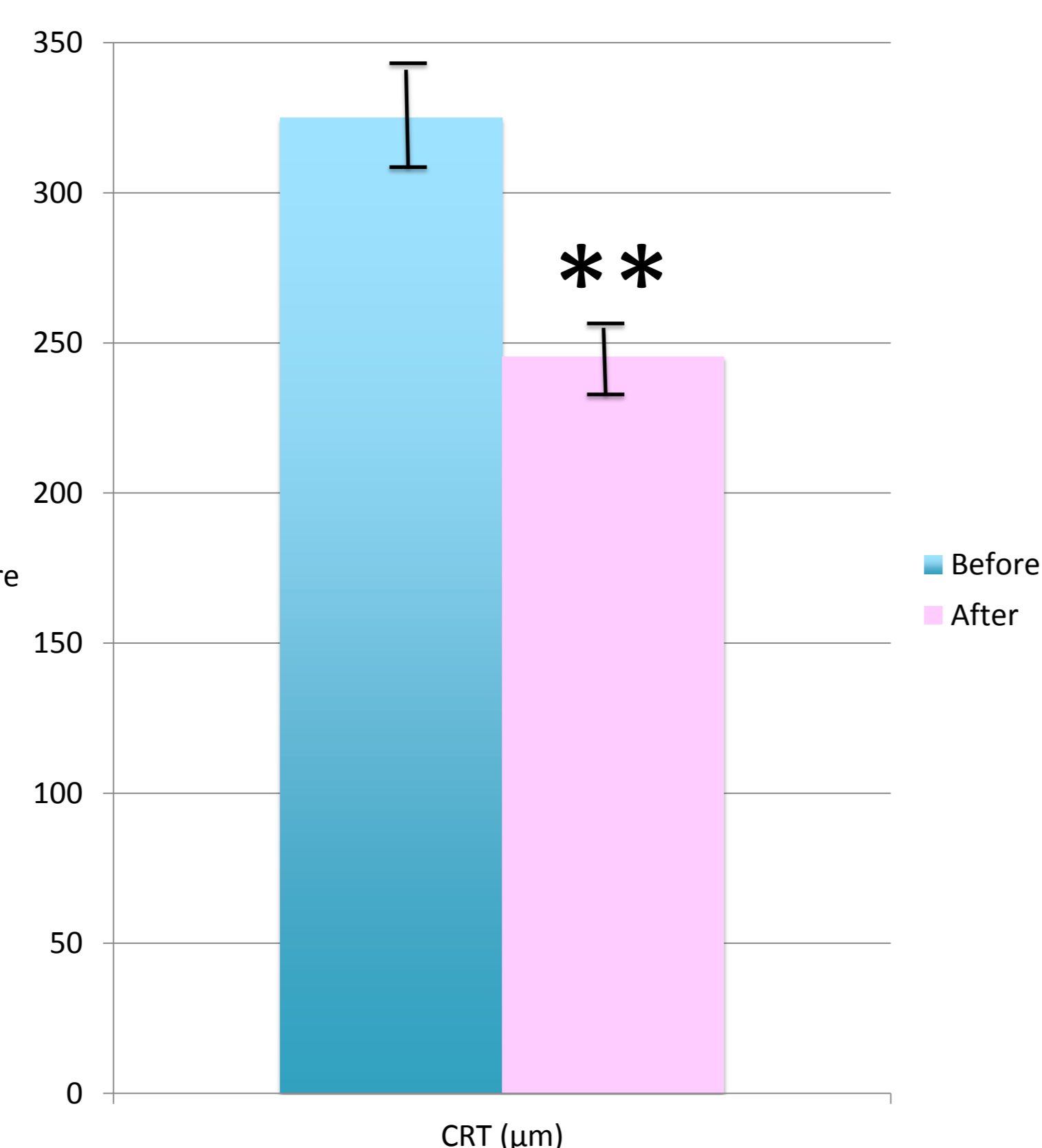


Figure 2. Mean differences in central retinal thickness (CRT) before and after the treatment with intravitreal aflibercept.

Methods

Design: Prospective observational study in patients diagnosed with AMD treated with Aflibercept, who didn't respond to Ranibizumab and/or Bevacizumab previously.

Variables: BCVA (ETDRS optotypes) and CRT obtained on optical coherence tomography (OTC 3-D, Topcon Corporation).

Statistics: Wilcoxon test for paired data and Student t test for paired data (Stata/IC 12, StataCorp LP, Texax, USA), considering significant if p value < 0.05 .

Discussion

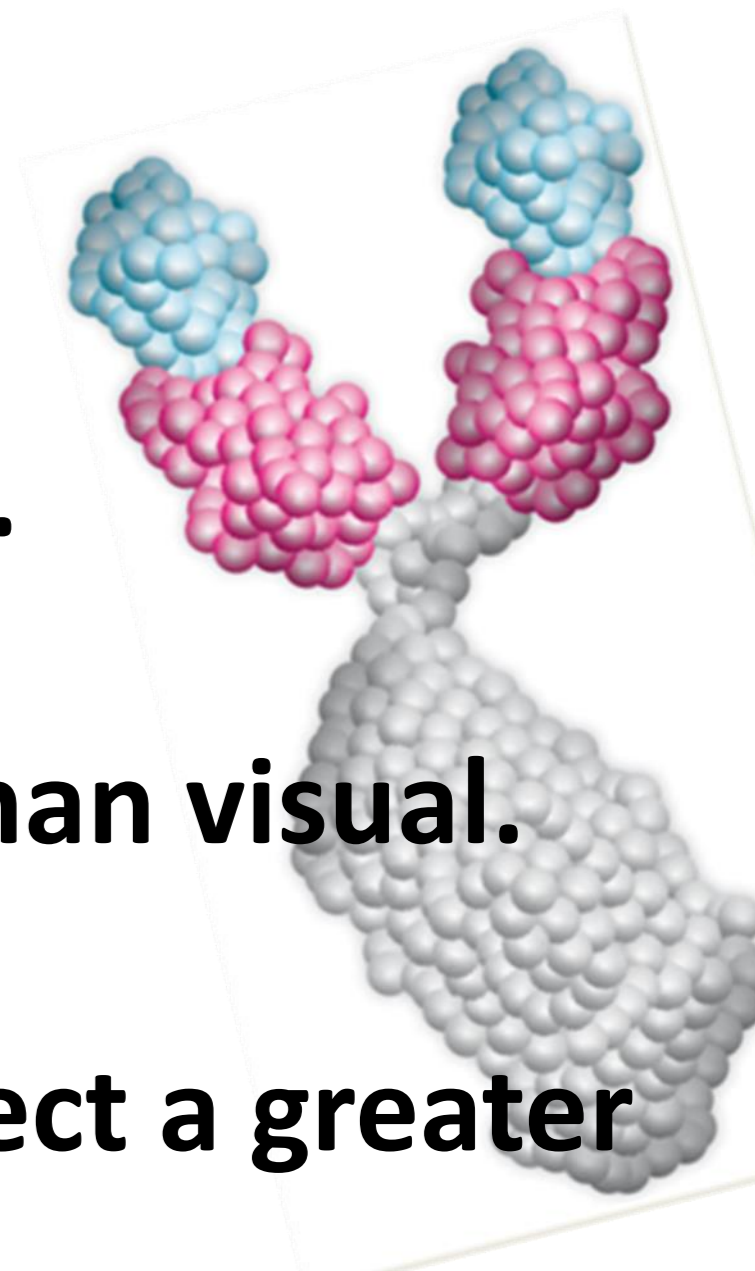
Aflibercept is a new VEGF inhibitor that differs from Ranibizumab and Bevacizumab by a **higher affinity to VEGF**, a **longer half-life** and its action blocking the placental growth factor (PIGF).

In phase III trials Aflibercept was shown to be **non-inferior** to Ranibizumab treatments and elicited the same outcome as a monthly Ranibizumab injection regimen when administered **bimonthly** following 3 monthly injections over a 52-week period.

This study indicates that an **improved anatomical** outcome can be achieved in patients with persistent macular exudation despite prior treatment with either Ranibizumab or Bevacizumab. Even though Aflibercept was able to resolve persistent macular exudate in our patient sample it remains controversial if a dry macula after anti-VEGF treatment allows for regained visual acuity.

Conclusions

- ✓ **Aflibercept is effective in refractive AMD.**
- ✓ **We obtain better anatomical response than visual.**
- ✓ **Due to the duration of the study we expect a greater effect with repeated administrations**



References

1. **Stewart MW. Aflibercept (VEGF Trap-Eye) for the treatment of exudative age-related macular degeneration. Expert Rev Clin Pharmacol. 2013;6(2):103-13.**
2. **Frampton JE. Aflibercept for intravitreal injection: in neovascular age-related macular degeneration. Drugs Aging. 2012;29(10):839-46.**