Outcomes in the second eyes in neovascular age-related macular degeneration whilst on treatment with intra-vitreal Anti-VEGF for the first eye

Mr V Kotamarthi, Mr RJ Vellaniparambil, Mr A Hafeez, Ms Omara Arshad, Ms Summaya Zaffar
Mid Cheshire Hospitals NHS Foundation Trust , Leighton Hospital , Crewe, Cheshire

Introduction:

The anatomical and functional outcomes were compared in the first eye and the second eye in case of sequential development of neovascular AMD at the end of 18 months .

Methods :

In a retrospective observational Study 60 patients had their first and second eyes compared when they developed sequentially neovascular AMD. All the patients eyes went through a phase of loading dose followed by a fixed dosing and a phase of treat and extend with intravitreal Anti-VEGF of the same type. Baseline visual acuity , the morphological features of the macula , including sub-retinal fluid (SRF), intra- retinal fluid (IRF), in relevant cases Sub-retinal hyper-reflective material (SRHRM), height of the Retinal pigment epithelial detachment) (RPED), Central sub-field thickness, retinal volume on the OCT were taken into consideration.

Results :

The visual acuity in the second eye was better at the time of diagnosis and again at the end of 18 months in all the eyes , with a mean of 62 letters in the second eye compared to a mean of 51 letters in the first eye (P= .003).

In the eyes that had sub- retinal fluid, the mean in the first eye was 333 micrometres compared to a mean of 267 micrometres in the second eyes (P=0.045). The mean RPED in the first eye was 277 micrometres compared to a mean of 206 micrometres in the second eye (P=0.004) at the time of diagnosis and at the end of 18 months, 177 micrometres versus 129 micrometres (P= 0.002). The average thickness in volume was 8.64 cubic millimetres in the first eye compared to 8.26 cubic millimetres in the second eye (P= 0.006).When the SRHRM was seen, the first eye had a mean of 271 micrometres compared to 128 micrometres in the second eye P = 0.043). 88% of the first eye patients were symptomatic but only 27% of the second eyes had any visual symptoms.

Conclusion:

Routine screening of the non-involved eye at every visit in the rapid access one-stop AMD clinics and the patients awareness of the nature of the neovascular AMD entity showed a better outcome in the second eye as it resulted in early diagnosis and treatment compared to the first eye. 10 patients (16.67%) had slight deterioration in the OCT parameters and vision of their second eye during the 8 weekly treatment phase or during the treat and extend phase as synchronisation of both eyes was attempted resulting in rapid extension of the second eye to match with the first eye. But this was soon corrected by reducing the intervals between the visits and injections and subsequently both eyes were synchronised with better outcome in the second eye. Both the normally distributed variables and non-normally distributed variables were compared between the two groups using statistical tests and p-values below 0.05 were considered statistically significant.