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Sir,
Clinical real-world results of switching treatment from ranibizumab to aflibercept in patients with diabetic macular oedema

To date, few studies have published data to assess the effects of switching anti-VEGF therapies in diabetic macular oedema (DMO).[1–3] The purpose of this study is to gain a better understanding of the clinical effects of switching treatment from ranibizumab to aflibercept, and to assess the number of aflibercept injections required to achieve complete resolution of macular oedema.

Switching to aflibercept was considered in cases of suboptimal response after treatment with a minimum of three ranibizumab injections at 4-week intervals on diagnosis of DMO. Suboptimal response was defined as decrease in central retinal thickness (CRT) by 25–75%, but with presence of persisting subretinal or intraretinal fluid. Treatment with ranibizumab was continued as needed until no improvement in CRT was noted. Eyes exhibiting increase in CRT after the first three monthly ranibizumab injections were switched to aflibercept, after the third ranibizumab injection. Responses to aflibercept were assessed at 4-week intervals until complete resolution of macular oedema was noted.

The study included a total of 49 eyes of 49 patients (15 women), with a mean age of 67.48 ± 11.4 years. The mean CRT at presentation of treatment naive patients was 537.08 ± 122.65 μm, with a mean best corrected visual acuity (BCVA) of logMAR 0.63 ± 0.29. A mean number of 6.3 ranibizumab intravitreal injections were administered in a mean period of 6 months without resolution of intraretinal and/or subretinal fluid. In these cases, treatment was switched to aflibercept injections on a per-needed basis. The duration of follow-up after initiation of aflibercept injection was 24 weeks. During this period, patients received an average of 2.58 (2–4) aflibercept injections until complete resolution of macular oedema, with complete absence of intra- or sub-retinal fluid on OCT.

At the time of switching anti-VEGF treatment, the mean CRT was 432.58 ± 163.72 μm. After 6 months with aflibercept, the mean CRT was noted to decrease to 275.83 ± 82.38 μm. As per the primary outcome of the study, a significant mean decline in retinal thickness of 156.75 μm ($P < 0.001$) was noted. The changes in mean BCVA after switching showed a statistically significant improvement from logMAR 0.71 ± 0.3 to logMAR 0.58 ± 0.18 ($P = 0.008$). These findings are demonstrated in Figure 1, which highlights the changes in CRT and BCVA, respectively at three different time points: at presentation, before switching to aflibercept (during treatment with ranibizumab), and at 6 months after treatment with aflibercept. A statistically significant correlation between BCVA and CRT at presentation (rp = 0.565) and before switching (rp = 0.565) was noted. However, there was no significant correlation between the BCVA and CRT after switching treatment (rp = − 0.138) (Figure 2). Furthermore, a significant correlation was detected

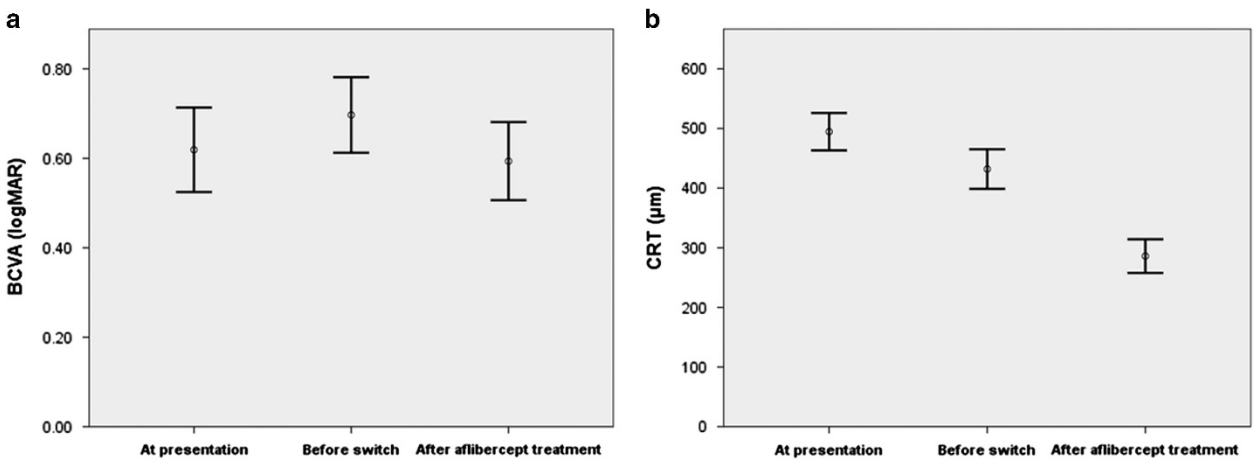

Figure 1 Change in mean BCVA (a) and CRT (b) at three time points: at presentation, before switching, and at 24 weeks after switching treatment to aflibercept. Statistically significant difference in BCVA and CRT was observed between various time points: presentation, before switching, and after switching treatment ($P = 0.008$ and $P < 0.001$, respectively).

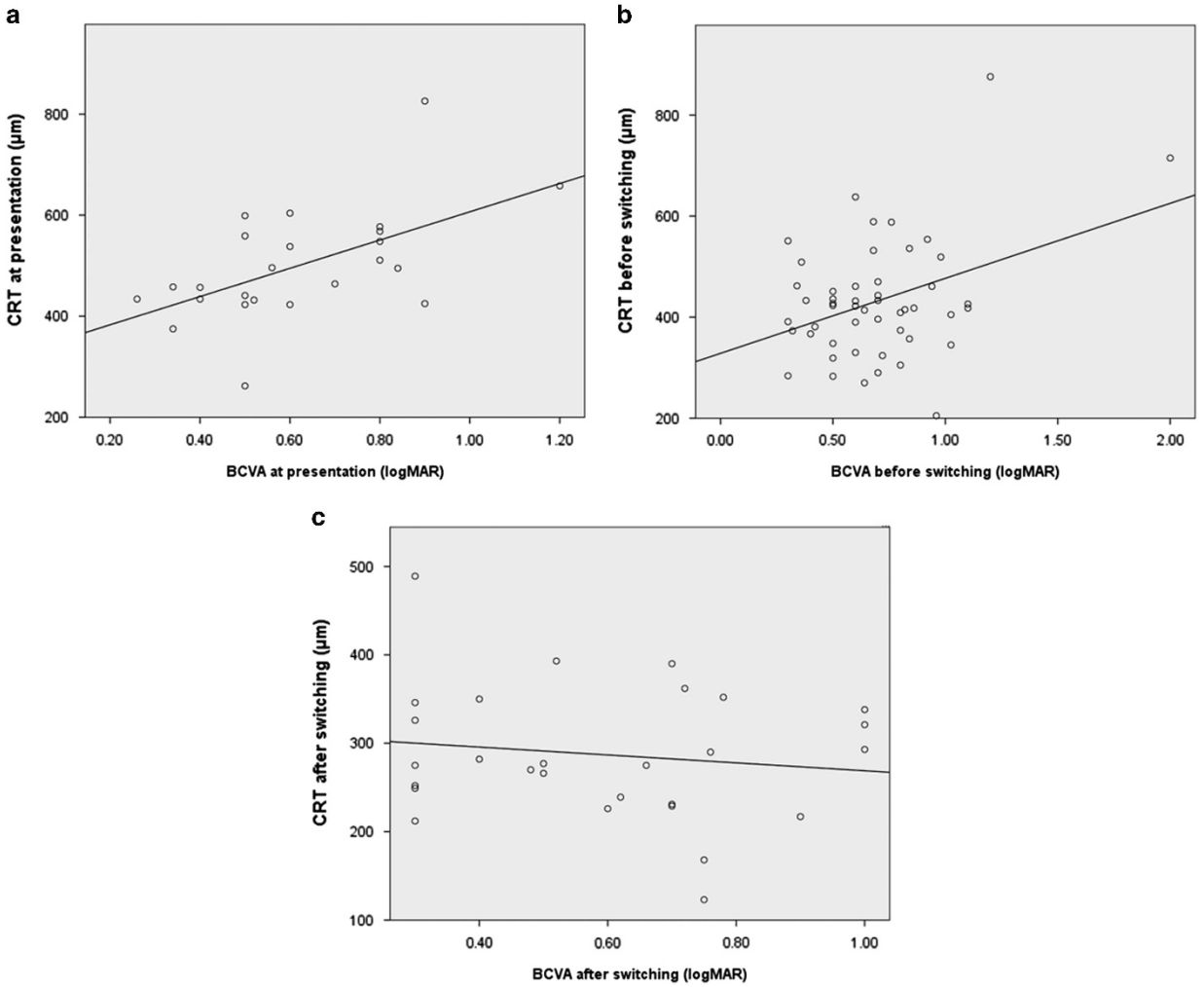

Figure 2 Correlations between CRT and BCVA at three time points. A statistically significant correlation between BCVA and CRT at presentation (rp = 0.565), and before switching (rp = 0.565) was noted. However, there was no significant correlation between the BCVA and CRT after switching treatment (rp = – 0.138).

between the number of ranibizumab injections with BCVA after switching (rp = 0.374).

Aflibercept appears to be an efficient treatment option for DMO, which is refractory to ranibizumab. This study demonstrates that satisfactory results regarding retinal integrity and visual outcomes can be accomplished with fewer injections. However, further studies are needed to investigate if these results can be maintained for a longer period of time.

Conflict of interest

The authors declare no conflict of interest.

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