Spectral-domain optical coherence tomographic analyses of macular changes post ranibizumab therapy for type 1 retinopathy of prematurity

Özgür Yücel M.Kazım Erol, Ümit Übeyt İnan

- **Purpose:** To investigate the clinical and macular spectral-domain optical coherence tomography (SD-OCT) findings post intravitreal ranibizumab (IVR) treatment for type 1 retinopathy of prematurity (ROP).

- **Method:** Eighteen eyes of 10 premature infants with type 1 ROP were retrospectively studied. All the eyes were treated with IVR as monotherapy. Macular SD-OCT was performed before and after IVR therapy using a portable SD-OCT machine; the follow up images were taken one day, one week, one month and two months post therapy.

- **Results:** Among the 10 infants, there were six males and four females. The mean gestational age was 26.6 ± 1.5 weeks (range 23-30) and the mean gestational birth weight was 862 ± 202 g (range 560-1185). Sixteen eyes of eight patients had macular edema before treatment. Two eyes of two patients had developed outer retinal break with serous retinal detachment one day after treatment. Macular edema regressed in all patients two months post IVR therapy. Mean follow up time was 11.4 ± 1.5 months. No recurrence was seen except in two eyes of one patients treated with IVR monotherapy.

- **Conclusions:** IVR is effective for the treatment of type 1 ROP as a monotherapy agent; however, macular changes not seen with indirect ophthalmoscope may develop later. Further studies with large sample size and longer follow up time are required to understand the clinical findings of macular changes.

- **Authors have no financial disclosure and conflict of interest**
Method

- Eighteen eyes of 10 premature infants with type 1 ROP were retrospectively studied.

- All the eyes were treated with IVR as monotherapy.

- Macular SD-OCT was performed before and after IVR therapy using a portable SD-OCT machine; the follow up images were taken one day, one week, one month and two months post therapy.
Result

- Among the 10 infants, there were six males and four females.
- The mean gestational age was $26.6 \pm 1.5$ weeks (range 23-30) and the mean gestational birth weight was $862 \pm 202$ g (range 560-1185).
- Sixteen eyes of eight patients had macular edema before treatment. Two eyes of two patients had developed outer retinal break with serous retinal detachment one day after treatment.
- Macular edema regressed in all patients two months post IVR therapy.
- Mean follow up time was $11.4 \pm 1.5$ months. No recurrence was seen except in two eyes of one patient treated with IVR.
Conclusion

- IVR is effective for the treatment of type 1 ROP as a monotherapy agent; however, macular changes not seen with indirect ophthalmoscope may develop later. Further studies with large sample size and longer follow up time are required to understand the clinical findings of macular changes.