Retinal Panorama

Case Facts

Volume 2

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CASE 1

Role of Ozurdex in Diabetic Macular Oedema

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History

A 58-year-old male patient presented with complaints of decreased vision in both eyes since 1 year. The patient was a known case of diabetes mellitus and had received laser treatment for his retinopathy 4 months back. The patient also had a history of stroke.

Evaluation

On examination, the best-corrected visual acuity (BCVA) in the right eye (RE) was 6/60 and that of the left eye (LE) was 4/60. A detailed ocular examination was performed. Slit lamp examination of both eyes were unremarkable. Fundus examination by indirect ophthalmoscope revealed diabetic retinopathy (DR) along with diabetic macular edema(DME) in both eyes (Fig.1a and b). Fundus fluorescein angiography (Fig.2a,b, and c) and HD-OCT (Fig. 3a and b) examination were done and confirmed nonproliferative DR with DME in RE and proliferative DR with DME in LE. Treatment plan included both eye ozurdex implantation along with PRP laser in the Left eye.

Fig 1a : Fundus of RE showing multiple hard exudates and hemorrhages along with few cotton wool spots scattered all around the post pole.

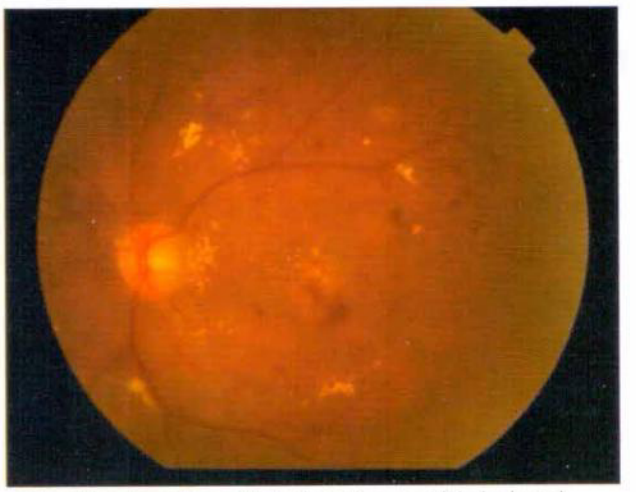

Fig 1b : Fundus of LE showing multiple hard exudates and hemorrhages along with few cotton wool spots scattered all around the post pole.

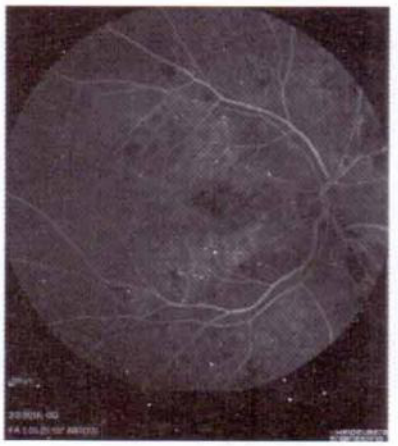

Fig 2a : Early phase of Fundus fluorescein angiography RE showing MA and diffuse macular edema with CNP areas

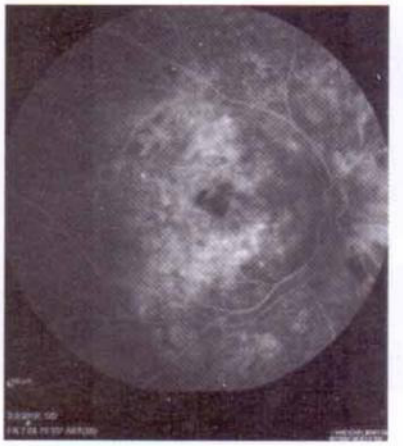

Fig 2b : Late phase of Fundus fluorescein angiography RE showing marked macular edema with CNP areas and staining of scar marks

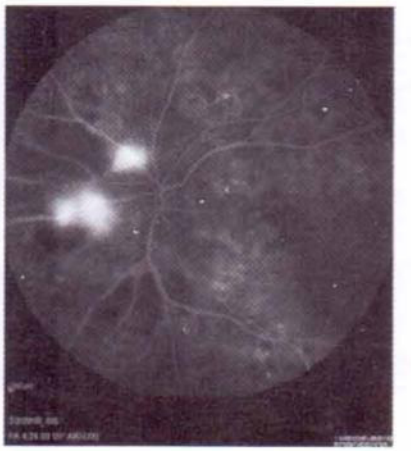

Fig 2c : Fundus fluorescein angiography LE showing MA and diffuse macular edema with CNP areas. Also showing NVE.

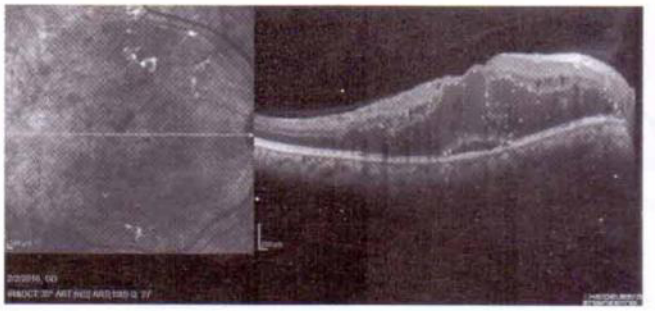

Fig 3a : HD-OCT RE showing altered foveal contour with multiple cystoid spaces and and sub retinal fluid. Also showing hard exudates; CFT: 638 µm

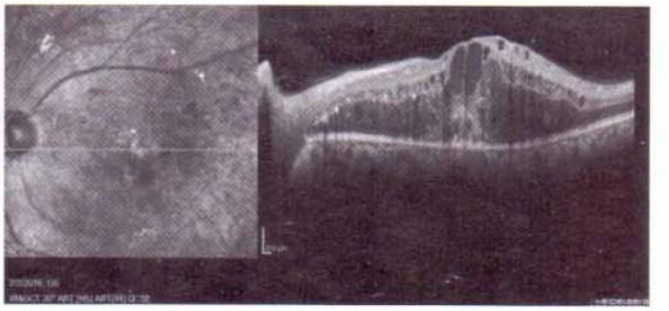

Fig 3b : HD-OCT LE showing altered foveal contour with multiple cystoid spaces and and sub retinal fluid. Also showing hard exudates; CFT : 680 µm

Treatment given

A written consent was obtained and pre-implantation antibiotics were prescribed to the patient for 1 day. On the day of implantation, the patient was taken to the operation theater and under all aseptic precautions, the procedure was performed. The distance from the limbus was maintained at 4.0 mm. Both eyes received implant ozurdex with the gap of one day.

The patient was followed up after 2 months and again detailed examinations were carried out. The BCVA improved to 6/36 in BE. Intra ocular pressures were also within normal limits. Fundus examination of BE revealed improvement in retinopathy features (Fig 4 a,b and c) and HD-OCT examination showed a marked reduction in DME (Fig 5 a and b).

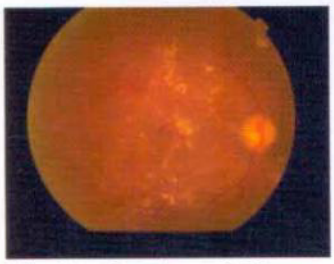

Fig 4a : Fundus of RE showing reduction in hemorrhages and crenated hard exdates

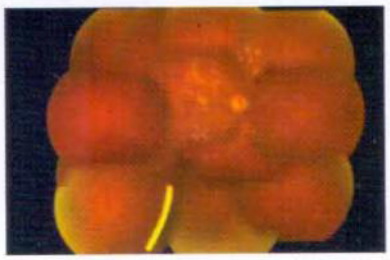

Fig 4b : Color montage of RE showing ozurdex implant in situ

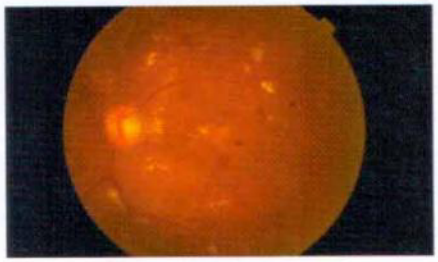

Fig 4c : Fundus of LE showing reduction in hemorrhages and crenated hard exudates

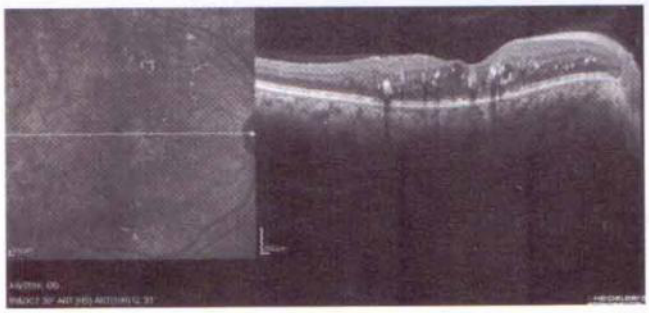

Fig 5a : HD-OCT RE showing fairly maintained foveal contour with reduction of cystoid spaces; CFT : 302 µm

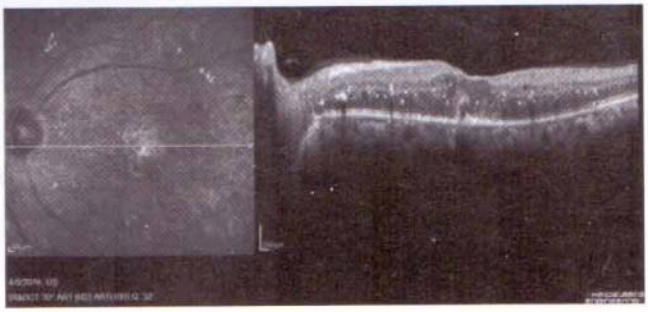

Fig 5b : HD-OCT LE showing fairly maintained foveal contour with reduction of cystoid spaces. CFT : 372 µm

Discussion

Diabetic retinopathy (DR) is a major cause of blindness among the working age group[1]. The vision loss associated with DR most commonly results from diabetic macular edema (DME), which is estimated to affect 20% of patients with DR.[2] Inflammation has an important role in the pathogenesis of DME, because the breakdown of the blood-retinal barrier involves the expression of inflammatory factors.[3] Ozurdex is a sustained-release, biodegradable implant containing the corticosteroid dexamethasone(0.7mg).The ozurdex implant demonstrated efficacy in the treatment of DME and had a favorable safety profile. Ozurdex has anatomical and functional effectiveness for the treatment of DME.

References

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CASE 2

Role of Ozurdex in Diabetic Macular Oedema

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History:

Presenting case of 65 years old male, with complaints of decreased vision in left eye since 8 months. He gave a history of Cataract Extraction with IOL implantation both eyes & Laser PRP x 1 done in both eyes 1 year ago. He is diabetic since 20 years on treatment with Insulin. His ocular and systemic histories were unremarkable.

Evaluation:

On examination, the best-corrected visual acuity (BCVA) with glass was 6/12 in the right eye (RE) and counting fingers 1.5 meters in the left eye (L E). Slit lamp examination revealed pseudophakia in both eyes. Indirect ophthalmoscopic examination of the posterior segment revealed NPDR (RE) & PDR (LE).

Fundus picture demonstrated cup disc ratio of 0.4:1, arteriolar attenuation, microaneurysms at the posterior pole, hard exudates around macula, CSME, few dot-blot haemorrhages, cotton wool spots in RE (Figure 1a) & cup disc ratio of 0.4:1, arteriolar attenuation, microaneurysms at posterior pole, hard exudates around macula, CSME, cotton wool spots, dot-blot haemorrhages, few NVE's in LE (Figure 1b).

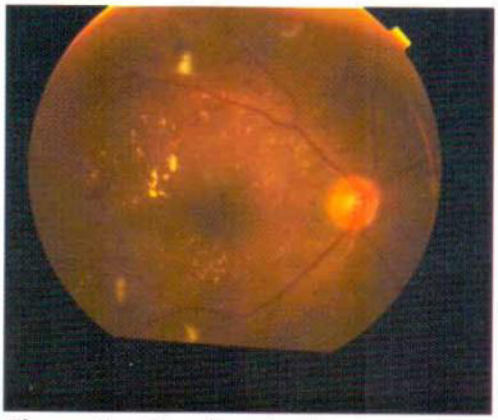

Figure 1 a: Fundus pic showing cup disc ratio of 0.4:1, arteriolar attenuation, microaneurysms at the posterior pole, hard exudates around macula, CSME, few dot-blot haemorrhages, cotton wool spots in RE

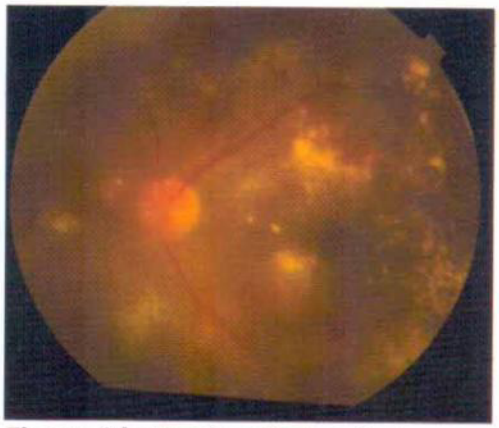

Figure 1 b: Fundus pic showing cup disc ratio of 0.4:1, arteriolar attenuation, microaneurysms at posterior pole, hard exudates around macula, CSME, cotton wool spots, dot-blot haemorrhages, few NVE's in LE.

OCT examination demonstrated subretinal fluid with few hard exudates with cystoid spaces with schisis-like spaces with a central foveal thickness of **399µm in RE (Figure 2a)** & epi-retinal membrane with few hard exudates with sub retinal fluid with corrugation of inner retinal layers with central foveal thickness **863µm in LE (Figure 2b).**

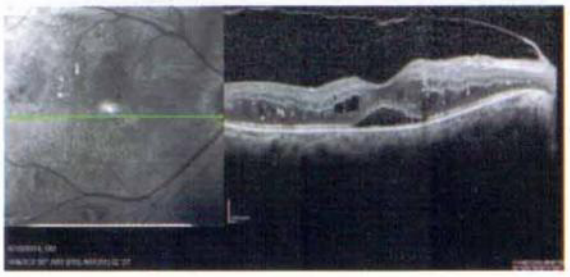

Figure 2 a: SD-OCT pic showing subretinal fluid with few hard exudates with cystoid spaces with schisis like spaces with central foveal thickness of **399µm in RE**

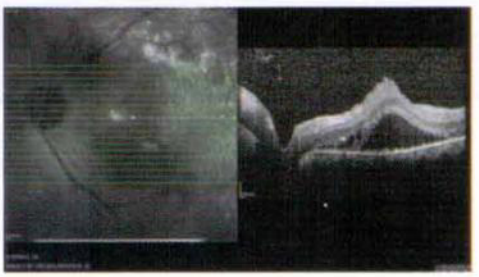

Figure 2 b: SD-OCT pic showing epi-retinal membrane with few hard exudates with sub retinal fluid with corrugation of inner retinal layers with central foveal thickness **863µm in LE**

Treatment Given:

In RE PRP augmentation along with focal & grid laser was done & Intra-vitreal injection of Lucentis 0.5mg in 0.05ml was given 3.5 mm from limbus infero-temporally. LE received intra-vitreal injection of Ozurdex implant(0.7mg). Post-treatment patient had BCVA of 6/12(RE) & 6/18 (LE).

Fundus picture demonstrated a decrease in the number of hard exudates & CSME in both eyes(Figure 3a & 3b). OCT revealed a limited reduction of central foveal thickness of **300µm in RE** (Figure 4a) **while it showed a remarkable reduction in the LE (257µm)** in LE (Figure 4b)

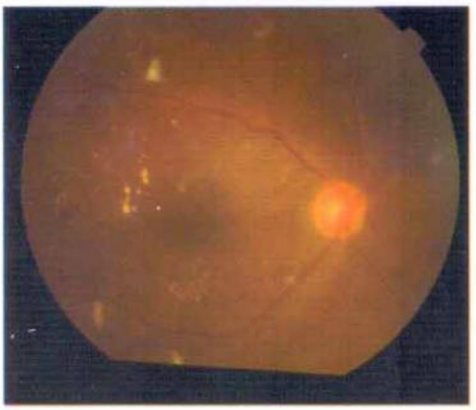

Figure 3 a: Fundus pic showing decrease in the number of hard exudates & CSME in RE

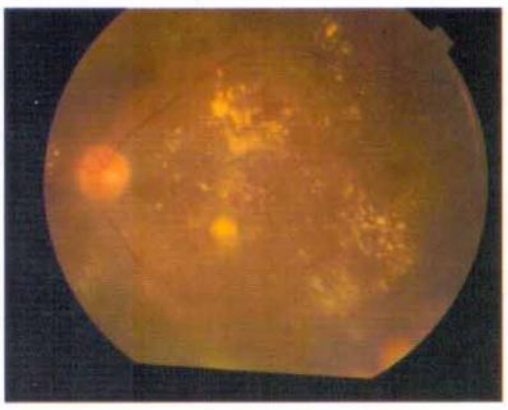

Figure 3 b: Fundus pic showing decrease in the number of hard exudates & CSME in LE

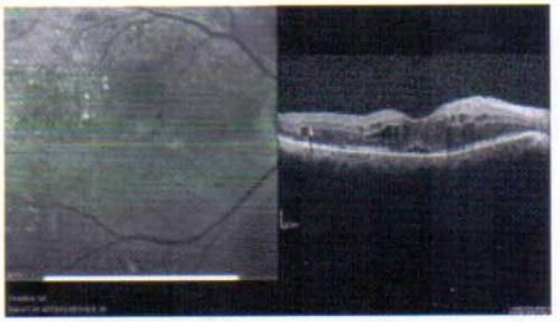

Figure 4 a: SD-OCT revelaed decrease in sub-retinal fluid, hard exudates, cystoid spaces & central foveal thickness of **300µm in RE**

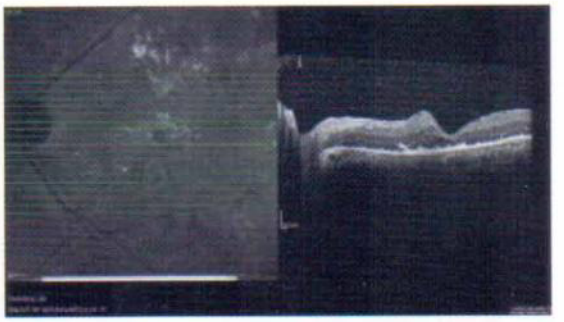

Figure 4 b: SD-OCT revelaed decrease in sub-retinal fluid, hard exudates, cystoid spaces & central foveal thickness of **257µm** in LE

Discussion:

Ozurdex is a sustained-release, biodegradable implant containing the corticosteroid dexamethasone(0.7mg). Ozurdex is the first and only injectable, biodegradable dexamethasone implant. A biodegradable implant is one that doesn't need to be removed after it releases medication. Ozurdex biodegradable implants use advanced NOVADUR drug delivery technology, in which biodegradable material is combined with the active drug dexamethasone to form a tiny rod-shaped implant. Inside the eye, the implant is slowly dissolved by the vitreous gel that fills the eye, releasing dexamethasone.

Ozurdex implant overall is well-tolerated and, with careful monitoring, can be a useful adjunct to treating macular edema associated with diabetes.[1] With a good efficacy and safety, manageable adverse events and an injection rate is much lower compared to that of anti-VEGF.[2] Ozurdex has anatomical and functional effectiveness for the treatment of DME.[3] In eyes with DME, intravitreal dexamethasone implant determined morphological and functional improvement as soon as one month and for up to four months after the treatment.[4]

References:

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