A Case of Optic Disc Pit Maculopathy

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Case Report

A 33-year-old woman presented to us with complaints of blurred vision in left eye of 2 months duration. Her best corrected visual acuity was 6/6 N6 in the right eye and 6/36, N12 in the left eye. Anterior segment examination was unremarkable. Amsler grid examination revealed a central scotoma in left eye. Indirect ophthalmoscopy and slit lamp biomicroscopy showed optic disc pit along with associated serous macular detachment (Fig 1A). She underwent fundus fluorescein angiography, which showed pooling of dye with no point leak (Fig 1B). Optical coherence tomography demonstrated convex schisis of the outer retinal layer (Fig 1D and E) and connection of optic disc pit with intra-retinal schisis. (Fig 1D) She received focal laser photocoagulation to the left eye with green laser in the peripapillary region. Laser was applied to the peripapillary retina like a barrage with a spot size of 100 microns and a power of 200 mW. Also 0.3 cc perfluoropropane gas ($C_3F_8$) was injected intravitreally under aseptic precautions. She was asked to maintain a prone position with face down for one week. Patient was followed up over a period of 12 months and best-corrected visual acuity remained stable at 6/36, N12.

Fig. 1. A: Pretreatment colour photograph showing optic disc pit with serous detachment of macula and chronic cystoid changes. B: FFA before treatment showing pooling of dye within the serous detachment without any point leak C: Post treatment photograph showing resolution of macular detachment D: OCT before treatment showing schisis cavities within the retina which is suggestive of chronic maculopathy. Also there is connection of optic disc with intraretinal schisis cavities E: OCT before treatment showing the cystoid changes at the fovea with an epiretinal membrane F: OCT after treatment showing reduction in macular thickness and resolution of schisis cavities in the retina
Colour photograph after 12 months revealed flat macula with resolution of serous macular detachment (Fig 1C). Optical coherence tomography was repeated after 12 months which showed few intraretinal cysts with near normal contour of retina (Fig 1F).

Discussion

Optic disc pit is a rare congenital abnormality that is frequently associated with macular detachment. The macular involvement occurs in 25% to 75% of eyes with optic disc pit. Various mechanisms have been reported to explain the serous macular detachment in patients with optic pits including vitreous and cerebrospinal fluid leakage through the optic pit and from there into the sub-retinal space.

The best corrected visual acuity on presentation in our case was 6/36, N12 whereas Sobol et al in analyzing 15 patients with optic disc pit, found that most eyes presented with visual acuities of about 6/12 to 6/18. Theodossiadus opined that patients with optic disc pits present later in the course and their macular detachments when their visual acuities are worse than 20/70 and similar observation was made in our case. Hassenstein A and Richard G analyzed 8 patients with optic pit maculopathy by optical coherence tomography. They demonstrated retinal detachment with a typical convex schisis of the outer retinal layer and also neurosensory detachment with and without intraretinal cystoid formation in their cases. OCT of our patient on presentation had similar picture with intraretinal schisis.

Recent long term studies confirm the earlier impression that untreated macular detachments caused by optic disc pit have an overall poor prognosis. Hence we treated our patient by combining two modalities, namely laser photoablation and pneumatic displacement of the retinal elevation by gas injection. Several series have favourably compared the outcome of photoablated eyes with untreated eyes in the resolution of the serous macular detachment and in final visual outcome. More recent attempts to combine photoablation therapy with posterior vitrectomy and gas fluid exchange have shown more encouraging long-term visual outcomes.

Conclusions

Barrage laser photocoagulation to the peripapillary retina along with intravitreal gas tamponade followed by prone positioning is a safe and effective method of treatment for optic disc pit with maculopathy.

References