

Pan retinal Photocoagulation in Treatment of Bullous Retinal Detachment in Atypical Central Serous Chorioretinopathy : 2 cases report

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INTRODUCTION

Atypical CSC is a rare variant form of CSC. It's characteristics are chronic or diffuse retinal pigment epitheliopathy, acute bullous retinal detachment and serous detachment with presence of exudative deposits and subretinal fibrin.¹ Atypical form usually associated with corticosteroid usage^{1,2}.

Many studies reported the treatment modalities of idiopathic CSC which included discontinuation of steroid² and causative agent, observation³, focal laser photocoagulation^{3,4} and photodynamic therapy (PDT)⁵⁻⁹. Focal laser shortens the course of disease but no difference in final VA outcome and recurrence rate compare to natural course. In cases of subfoveal or juxtafoveal leakage, many studies prefer to treat with PDT rather than photocoagulation. Most reports showed improvement in anatomical and visual outcome.⁵⁻⁹

PURPOSE

To report the outcome of panretinal photocoagulation in treatment of bullous retinal detachment in atypical central serous chorioretinopathy

METHOD

Case 1 : A 40 year-old man complaint of progressive blurred vision in his right eye for one month. The eye examination revealed best corrected visual acuity was 20/100 in the right eye and 20/30 in the left. The fundus of the right eye showed serous submacular fluid with inferior bullous retinal detachment (Figure 1A&B). The patient was treated by another doctor with prednisolone 1 mg/kg/day. At 1 week follow-up, the vision of the right eye worse to counting finger then we discontinued prednisolone and observed the patient for another month. Since there was no improvement, we performed focal laser photocoagulation at the focal and patchy leakage areas. Subretinal fluid was partially absorbed. At 11 weeks after focal laser photocoagulation, We considered that the avascular area with leakage was the remaining problem. So, the panretinal photocoagulation was applied to inferior avascular area by using 532-nm green laser, spot size 200-300 nm and moderate intensity burn.

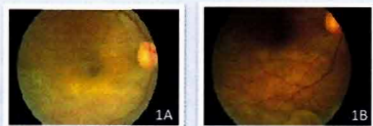


Figure 1(A&B) The fundus of the right eye showed serous submacular fluid with inferior bullous retinal detachment.

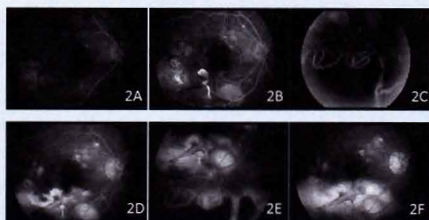


Figure 2: FFA of the right eye demonstrated three points of hyperfluorescence with smokestack pattern in the early phase (2A&2B), multiple patchy leakages at the level of RPE around macular arcade and large area of nonperfusion at inferior detached retina (2C&2D) associated with massive leakage of fluorescence into subretinal space in the late phase (2E&2F).

At 7 weeks follow-up, subretinal fluid was completely absorbed (Figure 3A) and visual acuity of this eye improved to 20/100. The OCT showed PED without subretinal fluid and FFA revealed no leakage pattern. At 6 and 12 months follow-up, the vision remain 20/100 and fundus reveal generalized RPE alteration and subretinal fibrosis (Figure 3B).

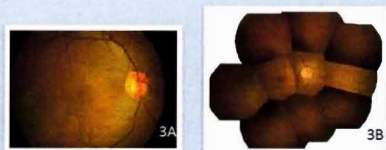


Figure 3 : 3A; The fundus finding at 7 weeks follow-up showed completely absorption of subretinal fluid. 3B; At 12 months follow-up, the fundus reveal generalized RPE alteration and subretinal fibrosis

Case 2 : A 49-year-old man complaint of progressive blurring of his left vision for 2 weeks. Visual acuity was 20/100 in the right and 20/200 in the left eye. The anterior segment was normal. The right fundus showed diffuse RPE alteration especially at macula and inferior retina. (Figure 4A) The left eye showed macular RPE alteration, white-yellow subretinal exudates, inferior bullous retinal detachment without retinal break and positive shifting of fluid (Figure 4B&C). Patient had been given prednisolone 1 mg/kg/day for 2 weeks, the visual acuity of his left eye worse to hand motion, so steroid was discontinued immediately.

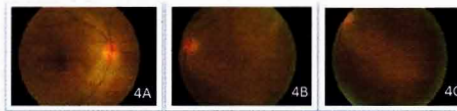


Figure 4 : 4A ; The right eye showed diffuse RPE alteration especially at macula and inferior retina. 4B&4C; The left eye showed macular RPE alteration, white-yellow subretinal exudates, inferior bullous retinal detachment



Figure 5: 5A-C The FFA of the left eye demonstrated focal and patchy areas of leakage at posterior pole and nonperfusion area at inferior retina with leakage from vessels.

Focal laser photocoagulation was applied to focal leakage, the submacular fluid was decreased but inferior bullous retinal detachment was still the same for 13 weeks. Then sectoral panretinal photocoagulation was applied to avascular area. Subretinal fluid was gradually absorbed until disappeared in 11 weeks (Figure 6). Visual acuity was improved from hand motion to counting finger. There was no recurrence up to 1 year follow-up.



Figure 6(A&B) The fundus finding at 11 weekd follow-up show generalized RPE alteration with completely absorption of subretinal fluid. 6C; at 12 months, there was no recurrence.

DISCUSSION

After performing focal laser photocoagulation to the focal areas of leakage, we found only a little absorption of subretinal fluid with remaining of bullous RD which associated with the large area of nonperfusion over the detached retina on FFA finding in both cases. According to the hypothesis that chronic retinal detachment can lead to retinal ischemia and breakdown of outer blood retinal barrier.¹⁰ And chronic hypoxia can induce production of vascular endothelial growth factor (VEGF) and cause vascular hyper-permeability and leakage. While performing panretinal photocoagulation to damage RPE and outer retina can reduce oxygen consumption in the outer retina and transmit oxygen to the inner retina, decrease hypoxic state and decrease VEGF production in the eye.¹⁰ At this stage, the PRP seem to be the prompt treatment for our patients. After burning the area of ischemic retina with PRP in both cases, we achieved anatomical outcome with completely absorption of subretinal fluid and slightly improvement in visual acuity with no recurrence within 1 year follow-up

CONCLUSION

Panretinal photocoagulation has been shown effective and may be considered as an adjunctive or alternative treatment for bullous retinal detachment in chronic atypical CSC

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