

Our Approach to Rhegmatogenous Retinal Detachment Associated with Choroidal Detachment

Yırtıklı Retina Dekolmanı ve Koroid Dekolmanı Beraberliğinde Tedavi Yaklaşımımız*

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ABSTRACT

The medical records of 3 patients with simultaneous choroidal detachment and retinal detachment with grade C vitreoretinopathy, treated in Marmara University School of Medicine between the years 2013 and 2015, were retrospectively investigated. All 3 patients received pulse steroid followed by an oral maintenance dose of steroid treatment. Upon regression of choroidal detachment, the patients underwent a combined surgical procedure of encircling scleral buckling, pars plana vitrectomy and 5500 centistokes silicon oil infusion procedure. Two phakic patients underwent cataract extraction with phacoemulsification and intraocular lens implantation at the same session. Anatomic success was achieved in all cases. Visual gain was obtained in 2 patients after 12 months of follow-up.

Key Words: Choroidal detachment, retinal detachment, pars plana vitrectomy, encircling scleral buckling, silicone oil.

ÖZ

Marmara Üniversitesi Göz Hastalıkları Anabilim Dalında 2013-2015 yılları arasında tedavi edilen simültane koroid dekolmanı tanısı bulunan ve evre C proliferatif vitreoretinopatili retina dekolmanı tanılı 3 olgunun tıbbi kayıtları geriye dönük olarak incelendi. Hastalara önce intravenöz pulse steroid, sonra idame oral steroid tedavisi uygulandı. Koroid dekolmanı yatıştır yatışmaz, kombine çevresel skleral çöktürme ve pars plana vitrektomi ile 5500 centistokes silikon yağı infüzyonu yapıldı. Fakik olan iki hastaya aynı seansta fakoemülsifikasyonla katarakt ekstraksiyonu uygulanarak göz içi mercek implante edildi. Tüm olgularda anatomik başarı elde edildi. İki olguda 12 aylık takibin sonunda görme artışı sağlandı.

Anahtar Kelimeler: Koroid dekolmanı, retina dekolmanı, pars plana vitrektomi, çevresel skleral çöktürme, silikon yağı.

INTRODUCTION

Combined rhegmatogenous retinal detachment and choroidal detachment is a rare condition, often accompanied by an anterior and posterior uveitis, hypotony, proliferative vitreoretinopathy and usually has a poor surgical and visual prognosis.¹ The exact causes and triggers for the disease are not known, its pathogenesis is attributed to increased inflammatory mediators.² The levels of metabolites in the vitreous associated with pathways related to proliferation, inflammatory reactions and hemodynamic changes are significantly different than in a rhegmatogenous retinal detachment.³ Hypotonia is thought to be due to uveitis, which may lead to vasodilatation and extravasation in the choroid and a choroidal and ciliary body detachment may occur. This further diminishes aqueous production.⁴⁻⁷ Myopia and advanced age and pseudophakia are other related risk factors.⁸

There is no consensus on the best approach to these patients. In this report, we aimed to present our approach in 3 cases with concurrent rhegmatogenous retinal and choroidal detachment.

*Bu çalışma 7. "Mediterranea Club International Meeting" (İstanbul2014) toplantısında sunulmuştur.

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Geliş Tarihi - Received: 28.08.2015
Kabul Tarihi - Accepted: 26.10.2015
Ret-Vit 2016;24:236-238

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CASE REPORTS

The clinical data and outcomes for the patients are summarized in the table.

Local ethics approval was obtained with the number 09.2015.211. All 3 patients presented with a history of long lasting of total rhegmatogenous retinal detachment as well as choroidal detachment (Figure a-c, e). Clinically, all cases had posterior synechia, hypotonia and proliferative vitreoretinopathy grade C. Case 1 was pseudophakic and other two eyes were phakic with a mild nuclear cataract. All patients received initially intravenous 1 gr/day pulse steroid (methylprednisolone) treatment for three days, and then an oral maintenance dose of steroid (1mg/kg) that was tapered gradually within 2 weeks. As soon as obtaining regression in choroidal detachment, the patients underwent a combined procedure of encircling scleral buckling and standard three port 23 gauge pars plana vitrectomy. At the conclusion of the vitrectomy, silicone oil 5500 centistokes was infused into the intravitreal cavity. Additional phacoemulsification with intraocular lens implantation was performed in 2 phakic eyes at the same session. Silicone oil was removed at postoperative 6 months. None of the patients developed hypotonia, neither recurrence of choroidal or retinal detachment 6 months after the extraction of silicone oil (Figure b, d, f).

DISCUSSION

Pars plana vitrectomy has been proposed for the primary treatment of combined rhegmatogenous retinal and choroidal detachment.^{4,9,10} However, it is technically difficult to apply vitrectomy in a hypotonic eye with a choroidal detachment. It was reported that the anatomic success rate increased from 66.7% to 81.8% in patients who received oral prednisolone pretreatment.⁵ Some authors advocate a periocular or intravitreal steroid injection to avoid systemic side effects of steroids.^{11,12} We are in opinion that a pulse steroid pretreatment is strong enough to suppress the ocular inflammation, which may be the main pathogenic mechanism of choroidal detachment. In all our 3 cases, systemic steroid treatment yielded the fast recovery of choroidal detachment and allowed further management of retinal detachment with vitrectomy.

The intravitreal use of silicone oil was proposed in the treatment of complicated retinal detachments with proliferative vitreoretinopathy.^{13,14} As the risk of postoperative hypotonia is high in patients with concurrent retinal detachment and choroidal detachment, Loo et al.⁶ suggested the use of silicone oil endotamponade for such patients. Gui et al.,⁷ performed a lensectomy to increase the space that is occupied by the silicone oil tamponade.

Taking into account of previous suggestions and referring to our own experiences^{6,7,13-16} we decided to perform a high dose systemic steroid pretreatment then pars plana vitrectomy for our cases while preferring also perform concurrent encircling sclera buckling and 5500 centistokes silicon oil as suggested especially for eyes with higher grades of proliferative vitreoretinopathy. We also find useful to apply cataract extraction in these patients as this manoeuvre permits better peripheral vitreous cleaning during the surgery and also allows an expanded space for silicone oil endotamponade following the surgery.

The functional results were limited in these cases, which we believe is due to the prolonged proliferative vitreoretinopathy in all 3 patients and additional negative effect of myopic maculopathy in Case 1. We advocate timely surgical intervention to obtain better results.



Figure a-f: Preoperative ultrasonography in case 1(A), case 2 (C) and in case 3(D) are given on the left side. Postoperative fundus photography of case 1(B) at 12 months, case 2 (D) at 8 months and case 3 (F) at 18 months are given on the right side.

Table: Demographic data and clinical results at baseline and the last follow-up.

Case	Gender	Age	Possible Etiology	Lens Status	Baseline IOP	Final IOP	Baseline VA	Final VA	Anatomic success
1	FM	51	Degenerative Myopia	Pseudophakic	7	14	HM	HM	+
2	M	48	Idiopathic	Phakic	4	16	HM	0.1	+
3	FM	61	Idiopathic	Phakic	5	17	LP	CF at 1 m	+

IOP; Intraocular pressure, VA; Visual acuity, FM; Female, M; Male, HM; Hand movements, LP; Light perception, CF; Counting fingers.

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