

Treatment of Serous Maculopathy Associated with Optic Disc Pit without Vitrectomy: A Case Presentation

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ABSTRACT:

Treatment of serous maculopathy associated with optic disc pit without vitrectomy: a case presentation

Objective: To report an serous maculopathy associated with optic disc pit which was treated with gas injection and laser photocoagulation.

Case: A 21-year-old female was admitted with blurred vision in the left eye. Optic disc pit was detected in the left eye. Best corrected visual acuity (BCVA) was 20/400 (Snellen), central macular thickness (CMT) was 768 µm and intraocular pressure was 15 mmHg in the left eye. Right eye was normal. After corneal paracentesis, 0.3 ml perfluoropropane (C₃F₈) gas was injected into vitreous cavity and the patient was advised to assume facedown position for 3 days. Laser photocoagulation was performed on the temporal side of the optic disc. Topical brinzolamide 1 % and topical ketorolac tromethamine were used 2x1/day for 3 months after gas injection. At 36th month BCVA was 20/40, CMT reduced. No change in intraocular pressure was observed during follow up.

Conclusion: Perfluoropropane injection and laser photocoagulation with topical medication were effective and safe for serous maculopathy associated with optic disc pit.

Keywords: Intravitreal gas, laser, optic disc pit, serous maculopathy

ÖZET:

Optik disk pitine bağlı gelişen seröz makülopatinin vitrektomisiz tedavisi: Bir olgu sunumu

Amaç: Optik disk pitine bağlı gelişen seröz makülopati olgusunun lazer fotokoagülasyon ve gaz enjeksiyonu ile tedavisini sunmak.

Olgu: Yirmi bir yaşında bayan hasta sol gözde bulanık görme şikayeti ile başvurdu. Yapılan muayene sol gözde optik diskte pit, düzeltilmiş en iyi görme keskinliği 20/400 (Snellen), merkezi maküla kalınlığı (MMK) 768 µm ve göz içi basıncı 15 mm Hg olduğu görüldü. Optik koherens tomografide seröz makülopati izlendi. Sağ göz normal idi. Sol göze paracentezi takiben 0.3 ml perfluoropropan (C₃F₈) gazı vitreus boşluğuna verildi. Üç gün süresince, günde 5 saat yüz üstü pozisyon verildi. Optik disk temporaline lazer fotokoagülasyon yapıldı. Gaz enjeksiyonundan sonra topikal brinzolamide %1 ve topikal ketorolak trometamin 2x1/gün üç ay boyunca kullanıldı. Otuzaltı aylık takip sonunda düzeltilmiş görmesi 20/40 seviyesine çıktı ve MMK düzeldi. Göz içi basıncında değişim olmadı.

Sonuç: Optik disk pitine bağlı seröz makülopati tedavisinde perfluoropropan gaz enjeksiyonu ve lazer fotokoagülasyonuna ilave topikal medikasyon etkili ve güvenli bulundu.

Anahtar kelimeler: İntravitreal gaz, lazer, optik disk pit, seröz makülopati

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INTRODUCTION

Optic disc pit is a congenital disc anomaly, first described by Wiethe in 1882, with an incidence of 1/11000 in population (1). The pits are frequently on the temporal side of optic disc (2). The prevalence of

serous maculopathy associated with optic disc pit is between 25-75% (3,4).

The pathogenesis of the serous maculopathy associated with optic disc pit is unknown. The origin of the subretinal fluid can be vitreous, the cerebrospinal fluid or the choroid (5-7). Treatment of

serous maculopathy associated with optic disc pit included observation, laser photocoagulation, pneumatic displacement, macular buckling and pars plana vitrectomy with tamponade (8-13).

CASE PRESENTATION

A 21-year-old Caucasian female was admitted to the ophthalmology clinic with the complaint of blurred vision in the left eye. The refractive error of the patient was -5.25-2.25 x 160 in the right eye, and -3.25-2.25 x 20 in the left eye. Best corrected visual acuity (BCVA) was 20/20 in the right eye, and 20/400 in the left eye. Anterior segment and intraocular pressure (IOP) measurements were normal in both eyes. Myopic retinal findings were observed after pupillary dilation in both eyes. A pit on temporal side of optic disc and serous macular detachment were other findings in the left eye. The central macular thickness (CMT) measured with optical coherence tomography (OCT) was 768 μ m (Figure-1) in the left

eye and 248 μ m in the right eye. Serous macular detachment and separation of the retinal layers were observed in the left eye's OCT scans.

After examination, intravitreal gas injection 0.3 mL perfluoropropane (C3F8), laser application and facedown position were planned for the patient. Anterior chamber paracentesis was performed before gas injection. Intravitreal gas injection was performed after conjunctival irrigation with povidone iodine 5% and 10 mL saline solution irrigation under general anesthesia in the operating room at the superior temporal area using a 27-gauge insulin needle. Topical tobramycine antibiotic collyre was used for 5 days qid after intravitreal gas injection.

Laser photocoagulation was performed (100 spot size, 80 ms, 80 mW) at the temporal border of optic disc one day after gas injection. Patient kept face-down position for 5 days.

At first month after gas injection BCVA was 20/100 and CMT was 492 μ m with some subretinal fluid persisting in the left eye. Second laser application

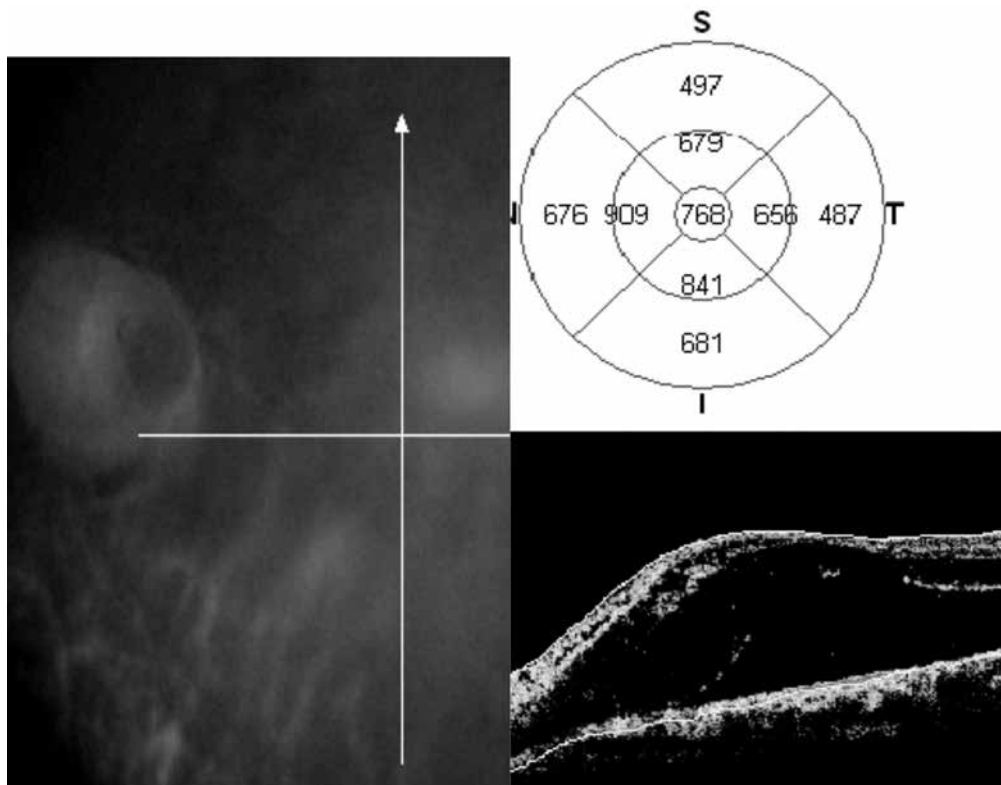


Figure-1: Optical coherence tomography with serous macular detachment in the left eye. Best corrected visual acuity (BCVA) was 20/400, Central macular thickness (CMT) was 768 μ m.

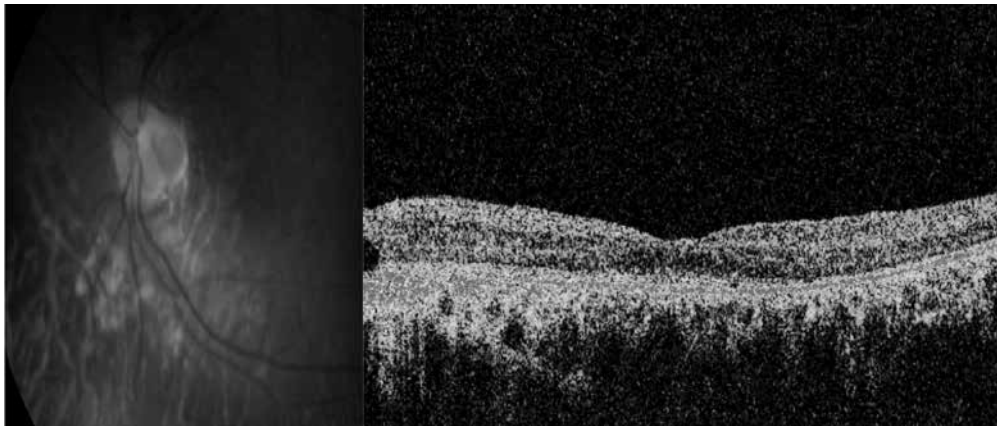


Figure-2: An optic disc pit and scars of laser photocoagulation on the left, last OCT scan, on the right. BCVA was 20/40 and CMT was 140 μm .

was performed 3 months after injection.

After 9 months from injection BCVA was 20/66.6, CMT was 382 μm with subretinal fluid.

Topical brinzolamide 1% and topical ketorolac tromethamine were used 2x1/day for 3 months after gas injection.

Twenty-two months after intravitreal gas injection BCVA was 20/40, CMT was 249 μm without subretinal fluid but with intraretinal fluid. The CMT was 249 μm . The last scan was performed at 36th month. BCVA was 20/40 and CMT was 140 μm (Figure-2).

DISCUSSION

Serous macular detachment is a complication secondary to optic disc pit. Serous maculopathy associated with optic disc pit occurs most frequently in young people. The management of maculopathy has been controversial.

Untreated patients with serous maculopathy associated with optic disc pit underwent loss of visual acuity in long term period (14).

Pars plana vitrectomy is a treatment option for maculopathy associated with optic disc pit (15,16). Pars plans vitrectomy with or without a tamponade has been reported to be not always effective in the

treatment of maculopathy associated with optic disc pit (17). Retinal tears and detachment, cataract formation, proliferative vitreoretinopathy, refractive changes are some complications of the pars plana vitrectomy.

Seperation of external and internal retinal layers was observed in our case. This seperation and serous fluid were disappeared after treatment. Despite the normal thickness and contour of macula, visual acuity did not reached to full (20/20) values. The literature included excellent results after vitrectomy for serous maculopathy associated with optic disc pit (18-20), however success of laser photocoagulation and gas tamponade is 72% (21). Application of laser photocoagulation and gas tamponade is less invasive than vitrectomy, therefore, this method can be used as the first approach, particularly in young patients.

Finally pars plana vitrectomy is a common method for treatment of maculopathy associated with optic disc pit. We used a method with less complication rate, compared to vitrectomy, in this case. The combination of intravitreal gas injection plus laser photocoagulation with topical brinzolamide and ketorolac tromethamine was effective and safe for serous maculopathy associated with optic disc pit in this patient.

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