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Optic Disc Pit Maculopathy: A Case Report

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ABSTRACT

Optic disc pit is a rare congenital abnormality. This disorder can be associated with serous maculopathy which results on a visual deterioration. Pathophysiology of this maculopathy remains unknown and it appears in the third or fourth decade. There is no consensus in treatment of optic disc pit-associated maculopathy. In this article, we will report a case of an optic disc pit maculopathy in a 31 years old Moroccan patient treated with PPV.

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INTRODUCTION

Optic disc pit is a rare deficit of the optic nerve substance often congenital [1] or secondary to other diseases including glaucoma and myopia [2,3,4]. Its prevalence is 1 in 11,000 with no gender predilection [1,5]. Typically, this condition is unilateral but can be bilateral in 15% of patients [6,7]. It can lead to an optic disc pit maculopathy, which is generally observed in temporally located pits and appears in the third or fourth decade [6]. There is no consensus in treatment of optic disc pit-associated maculopathy [8].

CASE REPORT

A 31 years old man with no medical history, who consulted for a rapidly progressive drop in VA on the left eye with metamorphopsia. His best-corrected visual acuity was 2/10 OS and 10/10 OD. Anterior segment examination and IOP were normal in both eyes. The fundus examination of the left eye found a macular retinal serous detachment and a temporal optic disc pit, while on her right eye there were no anomalies (Figure 1,a). SD-OCT of the OS showed a large serous retinal detachment with macular retinoschisis (figure 1,b-c). Fluorescein angiography confirmed the diagnosis of macular serous retinal detachment and revealed a hypo fluorescence in the early phase but staining of the Optic disc pit in the late phases (figure 1,d). This patient was treated with left vitrectomy posterior, hyaloid membrane peeling, retinopexy, and a gas tamponade with a good evolution.

At the one month post-operative visit, visual acuity in the left eye was 2/10. Progress OCT demonstrated slowly resolving macular schisis and serous retinal detachment after surgery

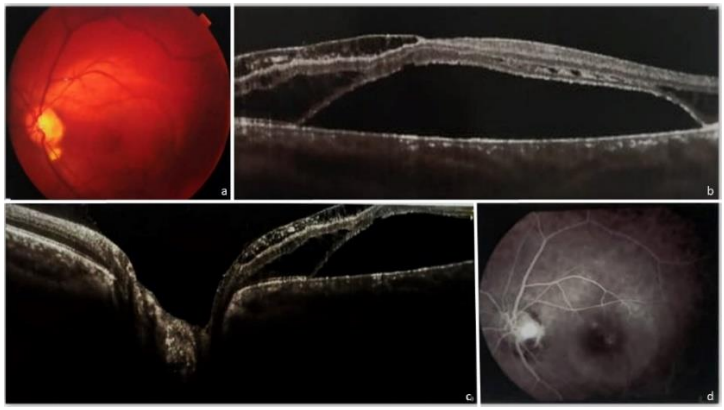

Figure 1:
a, Fundus photography of the left eye showing the optic disc pit.
b: Optical coherence tomographic scan before the surgical intervention, illustrating the macular serous detachment and macular retinoschisis.
c: A communication between the perineural and intraretinal space is seen.
d: Fundus fluorescein angiography of the left eye confirmed the diagnosis of a macular serous retinal detachment and a staining of the Optic disc pit in the late phases.

DISCUSSION

Wiethe described optic disc pit maculopathy for the first time in 1882[9]. This abnormality may manifest itself as macular schisis and/or serous macular detachment engendering a visual degradation [8]. The percentage of patients with optic disc pit progressing to serous macular detachment is estimated to be around 25–75 per cent [10,11]. It typically appears during the third or fourth decade [8]. Pathophysiology of this maculopathy remains unknown and the source of fluid is unclear. The source of fluid in optic disk pit maculopathy may be vitreous or cerebrospinal fluid (CSF) [8]. Optical coherence tomography (OCT) in patients with this condition showed a micro-communication between the schitic cavity/subretinal space and the optic disc pit [12, 13]. Furthermore, according to a study of Turkcuoglu and colleagues, the composition of subretinal fluid was comparable to that of CSF [14]. It has also been proposed that the Vitreous fluid is the source of the subretinal/intraretinal fluid in this anomaly. The migration of various dyes between the optic disc pits and the vitreous cavities provides an evidence of a link between the vitreous and the subretinal space [10,15]. Moreover, in patients with optic disc pits, intravitreal silicone oil and intraocular gas used in vitreoretinal surgeries have been found in subretinal spaces [16,17]. Fluid in ODP-M may also derive from the choroid, via Bruch membrane and peripapillary atrophy [18].

The role of vitreous traction in optic disc pit maculopathy is controversial [8]. Some authors believe that vitreous macular traction plays an important role in the pathogenesis of ODP-M. The argument for the role of vitreous traction is that by releasing the vitreous traction with various surgical methods, including vitrectomy with posterior vitreous detachment induction or macular buckling, the maculopathy usually resolves [19,20].

The symptoms of this condition are non-specific. Patients typically present with blurred vision, micropsia and metamorphopsia in their 30s to 40s after developing maculopathy [8]

OCT is the principal test for diagnosis for this anomaly. On OCT, macular schisis and serous macular detachment is typically seen extending from the pit to macular area [8]. Fluorescein angiography has a restricted role in optic disc pit associated maculopathy. In the event of maculopathy optic pit, we notice absence leakage of intravascular fluid into the subretinal space or schitic cavity in fluorescein angiography [21].

The treatment of this condition is a challenge and there is no consensus. Initially, Conservative treatment was recommended, such as oral corticosteroids. However, this approach is no longer a legitimate therapeutic option [22, 23]. Some cases of spontaneous resolution of optic disc-associated maculopathy have been reported [24,25] but this rarely occurs and it has also been observed that the final visual outcomes in these eyes on average were worse [11,26,27]. Several treatment options have been reported, including laser photocoagulation, Pars Plana Vitrectomy, Pneumatic Tamponade With or Without Laser Photocoagulation, inner limiting membrane (ILM) peeling, Macular Buckling, inner retinal fenestration and autologous fibrin and glial tissue removal have been reported [28].

CONCLUSION

ODP-M is a rare condition that presents a challenge in terms of treatment. In the present case, Pars Plana Vitrectomy with hyaloid membrane peeling, retinopexy, and gas tamponade was effective in treatment.

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