

# Early Spontaneous Reduction of Subsensory Fluid in A Case of Optic Disc Pit: A Rare Entity

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## Abstract

To report a case of spontaneous resolution of a serous macular detachment associated with an optic disc pit, leading to significant visual improvement. A 17 years old male presented to the outpatient department with chief complaints of blurring of vision in the left eye for 13 days, with some improvement in last 3 days. The patient had consulted elsewhere 10 days back and was noted to have a visual acuity of 6/60 in the left eye and was diagnosed to have an Optic disc pit with serous retinal detachment involving the macula. He was advised pars plana vitrectomy with gas tamponade but he preferred to wait for some time. The patient presented to us with improvement of the visual acuity to 6/9 in the left eye. Detailed fundus examination showed a large disc with a pit at the temporal disc margin with serous detachment seen temporal to the fovea. The patient was advised against any intervention and asked for regular follow up. We report a exhibited spontaneous regression of serous macular detachment in a case of optic disc pit within 13 days with significant improvement in visual acuity in a 17 year old patient.

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**Keywords:** spontaneous serous macular detachment resolution, optic disc pit, 13 days

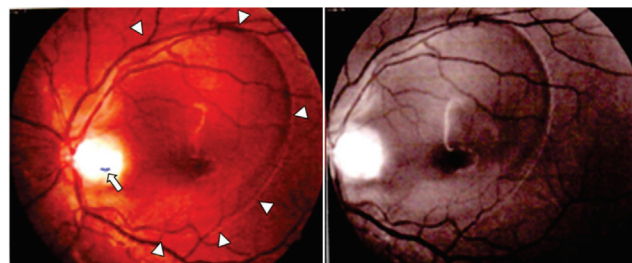
## Introduction

Optic disc pit (ODP) is considered a rare clinical entity with an incidence of about 1 in 10,000, being bilateral in 15% of the cases and most commonly located inferotemporal on the optic disc. Optic disc pits can be asymptomatic, but the majority of them present with fall in visual acuity and are found to be frequently associated with serous retinal detachment (25–75%).<sup>1,2</sup>

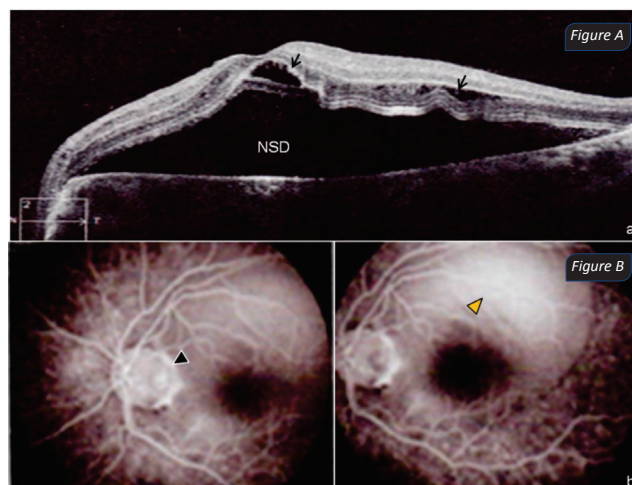
Treatment for symptomatic optic disc pit include a plethora of options like conservative management, laser photo-coagulation, vitrectomy, with or without internal limiting membrane (ILM) peeling, gas tamponade and the combination of them.<sup>3-6</sup> Herein, we present a case of serous macular detachment associated with an optic disc pit in a young patient which resolved clinically and on serial OCT scans within a short interval of ten days without any active intervention. The findings remained stable at 1-month follow-up.

## Case Report

A 17 year old male presented to the outpatient department with chief complaints of blurring of vision in the left eye since 13 days. The patient had consulted elsewhere 10 days back and was noted to have a visual acuity of 6/60 and metamorphopsia in the left eye and was diagnosed to have an Optic disc pit with serous retinal detachment involving the macula. Anterior segment was unremarkable. Fundus pictures showed a large disc with a large oval pit at the temporal disc margin with macular serous detachment extending to the superior arcade (Figure 1). An Optical Coherence Tomography (OCT) scan revealed inner layer separation with outer layer neurosensory detachment (Figure 2a). Fluorescein angiography (FA) showed a hypoflorescent pit at the disc with hyperflorescence in the area of sensory detachment (Figure 2b). He was advised vitrectomy surgery but the patient denied treatment there. The patient presented to us with improvement of the visual acuity to 6/9p in the left eye. He was symptomatically

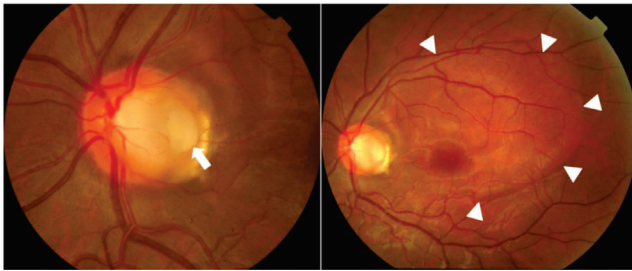


**Figure 1:** Left eye shows large disc with a large oval pit at the temporal disc margin (white arrow) with macular serous detachment extending to the superior arcade. (white arrow head).

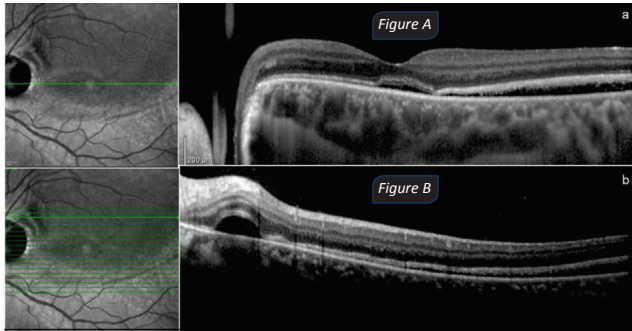


**Figure 2:** OCT scan showing inner layer separation (black arrows) with neurosensory detachment (Figure a). Florescein angiography (FA) showed a staining of pit at the disc (black arrow head) with hyperflorescence in the area of sensory detachment. (yellow arrow head) (Figure b).

better and had no complaints of metamorphopsia. Detailed fundus examination showed a large disc with an oval pit at the temporal disc margin with serous detachment seen temporal to the fovea (Figure 3). An OCT scan showed remarkable decrease in the serous detachment with minimal



**Figure 3:** Large disc with an oval pit at the temporal disc margin (white arrow) with serous detachment seen temporal to the fovea (white arrow head).



**Figure 4:** Scan showing serous detachment with minimal subretinal fluid subfoveally (Figure a). A small pocket of subretinal fluid is seen superotemporal to the disc (Figure b).

sub-retinal fluid subfoveally as compared to previous reports (Figure 4a). We also noticed a small pocket of sub-retinal fluid superotemporally to the disc margin (Figure 4b). The patient was advised against any intervention and followed up, after one month. At one month follow up, there was no change in the clinical and OCT findings.

### Discussion

Spontaneous improvement in the sub retinal fluid associated with optic disc pits has been reported previously, but occurs after a long and variable period ranging up to a month to few years. The visual acuities after such improvements however, are also not very impressive, primarily because of the retinal pigment epithelial alterations and possible outer-retinal damage associated with the long standing detachments.<sup>3,7,8</sup> Our patient demonstrated a dramatic improvement in visual acuity with resolution of serous detachment within 13 days of initial symptoms.

Optic disc pit diagnosis is based mainly on fundus examination and OCT, which reveals the macular detachment and sub retinal fluid accumulation. Thus OCT, used for follow-up, and relating with visual acuity helps in deciding the prognosis and any immediate management if required.

Treatment modalities for optic disc pit include a spectrum of options. A conservative management can be adopted, although it often leads to poor visual outcomes.<sup>2,3</sup> Laser photo-coagulation is another alternative, but it is not widely used today.<sup>2,6</sup> The current mode of choice adopted by many surgeons is pars plana vitrectomy with removal of the posterior hyaloid, with or without peri-papillary argon laser

photocoagulation on the temporal edge of the disc pit and C3F8 gas tamponade, with or without ILM peeling.

There are previous studies describing the spontaneous resolution of serous macular detachments associated with optic disc pit, without any active intervention.<sup>1,9-11</sup> Bonnet reported resolution of macular detachment in 2 out of 4 cases with optic disc pit, without any intervention in a long-term follow-up of 8–10 years, but without improvement in visual acuity.<sup>9</sup> Patton et al reported a case of a 43-year-old man who exhibited similar sub-retinal fluid regression in a long-term follow-up of 2.5 years, with a visual acuity improvement from 6/60 to 6/18.<sup>10</sup> Similarly, Cruzado-Sanchez et al presented a case of spontaneous resolution of a long standing macular detachment associated with optic disc pit with significant visual improvement in a 38-year-old female. Our case, however, showed significant improvement in visual acuity from 6/60 to 6/9 after spontaneous resolution of a macular detachment over a period of 13 days, which remained stable at 1-month follow-up.

The most common theory of serous macular detachment in optic disc pit is the communication between the subarachnoid and sub-retinal spaces, through which cerebrospinal fluid can move towards the sub-macular space.<sup>2</sup> As per Georgalas et al, the spontaneous closure in such cases could be attributed to a flow and pressure reduction at the level of the subarachnoid space, along with the firm adhesion between the neurosensory retina layers and the retina pigment epithelium.<sup>2</sup>

In conclusion, optic disc pit is a rare clinical entity, and there are few reported cases with spontaneous resolution of associated macular detachment. Our case exhibited spontaneous regression of serous macular detachment in a case of optic disc pit after 13 days with improvement in visual acuity from 6/60 to 6/9, which remained stable at 1-month follow-up.

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