

# Serous macular detachment due to nasally located optic disc pit-coloboma

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Received: 2017-08-14 Accepted: 2018-01-25

**DOI:10.18240/ijo.2018.11.23**

**Citation:** Theodoropoulou S, Theodossiadis G, Sallam A, Theodossiadis P. Serous macular detachment due to nasally located optic disc pit-coloboma. *Int J Ophthalmol* 2018;11(11):1879-1880

## Dear Editor,

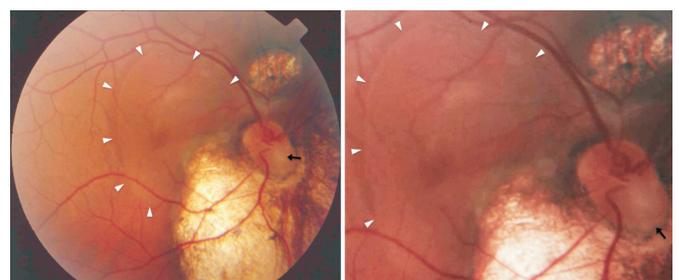
We present the first reported case of nasal optic disc pit resulting in serous detachment of the macula. Optic disc pit is a rare congenital anomaly occurring in one out of 11 000 people. The appearance is a localized round or oval depression in that is grey, yellow or black in colour depending on the amount of glial tissue present. Histologically, optic pits consist of herniations of dysplastic retina into a collagen-lined pocket extending posteriorly, often into the subarachnoid space (SAS), through a defect in the lamina cribrosa<sup>[1-2]</sup>. Congenital optic pits commonly involve the temporal optic disc. Nasal location has been rarely reported<sup>[3]</sup>. The pathophysiology of the congenital optic pit is unclear and debatable. For a long time, it has been considered an atypical, mild variant of optic disc coloboma<sup>[1]</sup>. In optic disc coloboma, a sharply delimited, glistening white, bowl-shaped excavation occupies an enlarged optic disc. The excavation is decentred inferiorly, reflecting the position of the embryonic fissure relative to the primitive epithelial papilla<sup>[1]</sup>.

Approximately two-thirds of patients with congenital optic disc pits have or have had a serous retinal detachment of the macula<sup>[2]</sup>. Optical coherence tomography (OCT) has shown that there are frequent retinoschisis-like separations of the retina, serous macular detachments or both<sup>[3]</sup>. However, the pathogenesis of the macular detachments associated with optic

disc pits or optic disc coloboma remains undetermined. Here, we present, to our knowledge, the first reported case of nasal optic disc pit resulting in serous detachment of the macula. We obtained the written informed consent from the patient, and this case study is in accordance with the tenets of the Declaration of Helsinki.

A 27-year-old male was seen in our department for progressive visual impairment in the right eye. He denied any history of trauma before this event. Examination of the anterior segment showed no particular findings. Fundoscopic examination revealed macular elevation, and a nasally located optic disc pit (Figure 1). The macular elevation extended between the vascular arcades. The optic disc with the pit was associated with a large inferior chorioretinal coloboma, located adjacent to the lower part of the optic disc and extended from 3 to 9 o'clock hours; the area of colobomatous retina had no retinal hole or elevation. A total posterior vitreous detachment was also found.

To our knowledge, there is no previous reporting of macular detachment with nasal optic disc pit. Therefore, the treatment is not the surgical approach as in temporal optic disc pit with macular elevation. Such cases need close observation, the visual outcome cannot be predicted because of the rarity and the prognosis is guarded in case of progression. This case demonstrates the importance of monitoring patients for optic disc pit-related maculopathy in all cases and not only temporal optic disc pits. The cause of the macular elevation due to optic disc pit is unclear. Previous studies<sup>[2-3]</sup> support that the fluid comes from SAS or the vitreous cavity. In our patient, the optic disc pit was located at the nasal part of the optic disc centrally, which is the least common region mentioned, and was combined with chorioretinal coloboma. Despite the nasal location of the optic disc pit, the patient developed optic disc



**Figure 1** Fundoscopic examination revealed macular elevation (arrowhead), and a nasally located optic disc pit (arrow).

pit-related maculopathy; we speculate, based on previous OCT study on optic disc pit with coloboma<sup>[3]</sup>, that the scleral fibers located above the SAS are sparse within the area of chorioretinal coloboma. Enhanced-depth OCT<sup>[3]</sup> also showed the existence of the gap between the sparsely arranged scleral fibers and SAS, and probable communication between SAS and optic disc chorioretinal coloboma. This communication may be a route for the cerebrospinal fluid to the macular elevation. Even though it is difficult to detect the exact route of the fluid from the nasally located optic disc pit to the macula, this coexistence we present is interesting and a very rare finding, which additionally enhances the view that the macular elevation probably originated from the SAS fluid.

**ACKNOWLEDGEMENTS**

**Conflicts of Interest:** Theodoropoulou S, None; Theodossiadis G, None; Sallam A, None; Theodossiadis P, None.

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