

Sir,
Optic disc pit as evaluated with en-face optical coherence tomography: report of a case
 Anomalous excavations of the optic disc are congenital cavitory abnormalities that may be associated with macular retinoschisis and serous detachment.^{1,2}

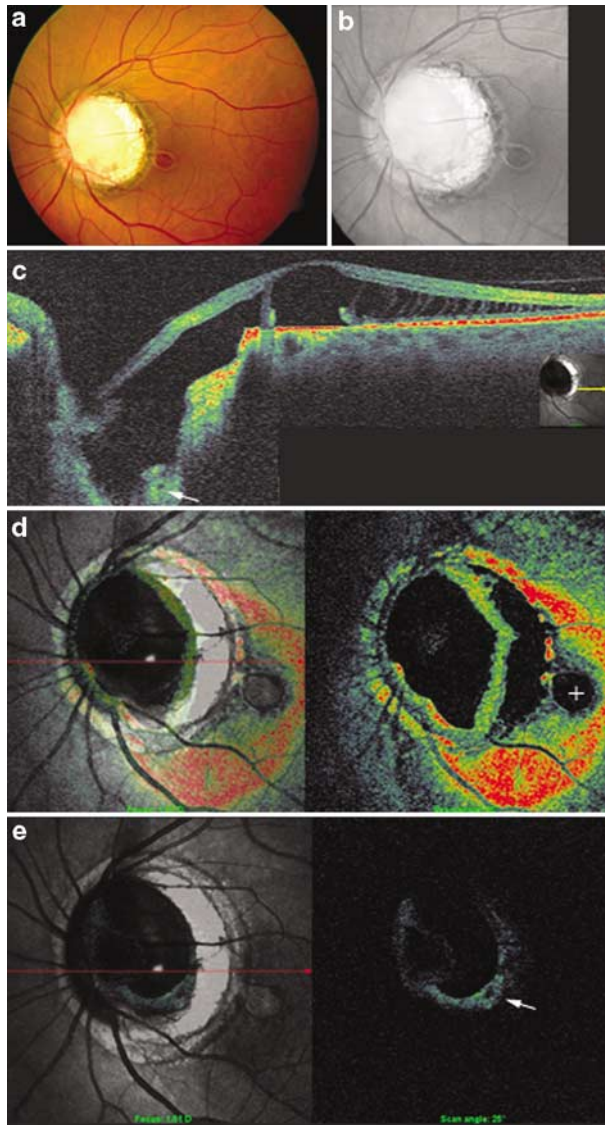


Figure 1 (a) Colour and (b) red-free fundus images of the left eye show a large, deep anomalous excavation of the optic disc, with a macular hole-like abnormality. (c) En-face optical coherence tomography (OCT) cross-sectional B-scan shows a foveoschisis and a foveal intraretinal cyst, sensory detachment at the temporal aspect of the excavation, hyper-reflective pillars at the schisis border, and a cystic formation on the pit bottom (arrow). The distance between the cystic formation and the level of the pigment epithelium was 1.04 mm. Antero-posterior consecutive en-face OCT coronal C-scans show (d) the edges of the foveal cyst (cross) and the optic disc pit, and (e) the optically empty cystic space on the pit bottom (arrow). The left panel of the C scans shows overlaid confocal red-free image/coronal C-scan, while the right panel shows not overlaid C-scan. The angular size for all scans is $30 \times 30^\circ$.

Case report

A 12-year-old white girl came to our observation with a 1-month history of blurred vision and metamorphopsias in the left eye. She had no systemic disorders and no family history of ophthalmic disorders. Best corrected visual acuity was 20/20 OD, and hand movement OS. Anterior segment and intraocular pressure were normal bilaterally, whereas ophthalmoscopic examination of the left eye revealed a large, deep, sharply delimited optic disc excavation, and macular hole-like abnormality (Figure 1). Examination with en-face optical coherence tomography (OCT) (Time-domain OCT/Scanning Laser Ophthalmoscope, OTI, Toronto, Ontario, Canada) of the left eye showed a sensory detachment in the temporal aspect of the excavation and a foveoschisis with foveal cyst. An optically empty, poorly defined cystic area was present close to the neural rim on the bottom of the pit. It was covered by unbroken retinal-like tissue and was contiguous to the sensory detachment. Hyper-reflective pillars appeared subretinally outside the optic pit, at the border of the schisis.

Comment

Cavitory optic disc abnormalities are thought to be determined by malclosure of the embryonic ocular fissure. Dysplastic retina herniates into a collagen-lined sac or pocket, and often extends posteriorly into the subarachnoid space through a defect in the lamina cribrosa.² Fluid from the disc excavation may cause intraretinal oedema followed by macular detachment. Fluid can arise from the vitreous cavity and subarachnoid space, as suggested by the incomplete differentiation and porous nature of herniated tissues on histological examination³, by OCT findings⁴ and by migration of gas bubbles among the subarachnoid space, the subretinal space, and the vitreous cavity.⁵ To our knowledge, this is the first *in vivo* report of a cystic lesion on the bottom of an optic disc pit. This finding could suggest a communication between the subarachnoid and subretinal space. In conclusion, it is conceivable that the peculiar pillars outside the optic pit area could be dysplastic retinal tissue mechanically stretched by subretinal fluid. This mechanism could explain seepage of subretinal fluid.

References

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