Reverse fluorescein cap sign of cavernous haemangioma of optic nerve on OCT angiography

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DESCRIPTION

A man aged 57 years, a known hypertensive, presented with symptoms of visual loss in the upper field in the left eye since 6 months. Best-corrected visual acuity in both eyes was 20/20, N6 (with eccentric fixation in the left eye). On clinical examination, he was found to have a vascular malformation of the optic nerve head (ONH) with typical grape clusters appearance of ONH in both eyes, suggestive of cavernous haemangioma and associated inferotemporal branch retinal artery occlusion corresponding to the upper visual field defect in the left eye.

Cavernous haemangioma is a non-progressive rare retinal vascular hamartoma. Typical fundus findings are clumps of dark saccular aneurysms (cluster of grapes appearance) with fibroglial tissue over the tumour, absence of feeder vessels and absence of exudation. Complications include haemorrhage and retinal arterial occlusions.[1 2] Diagnosis is based on clinical picture and typical fluorescein cap sign seen on fundus fluorescein angiography (FFA) due to hyperfluorescence due to staining of supernatant plasma and hypofluorescence at the bottom of the aneurysm.

FFA typically showed fluorescein caps due to staining of supernatant plasma in the vascular malformations of ONH (figure 1A). We observed a 'reverse fluorescein cap sign' with echolucent space in the area of plasma superiorly and bright signal due to blood flow at the bottom of aneurysm detected on optical coherence tomography (OCT) angiography of ONH (figure 1B) clinching the diagnosis of cavernous haemangioma of ONH. OCT angiography can be used as a non-invasive tool in the diagnosis of cavernous haemangioma of ONH.

Learning points

- A typical fluorescein cap sign of retinal vascular malformation seen on fundus fluorescein angiography (invasive imaging) clinches the confirmatory diagnosis of cavernous haemangioma.
- Optical coherence tomography angiography is a promising non-invasive imaging technique that confirms the diagnosis of cavernous haemangioma by showing a typical reverse fluorescein cap sign.

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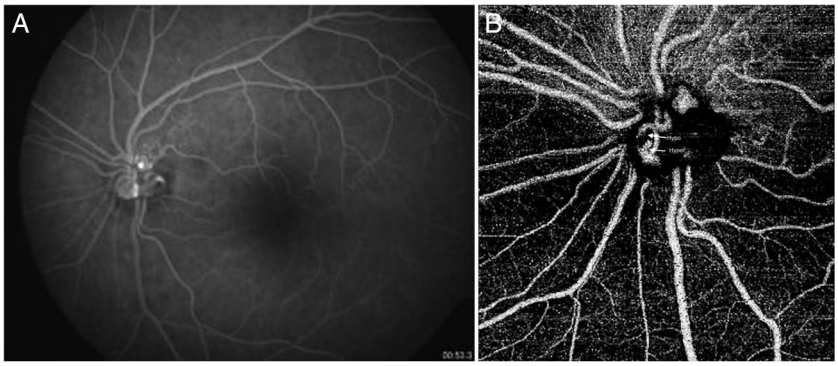

Figure 1 (A) Typical fluorescein cap due to staining of supernatant plasma on fundus fluorescein angiography and optical coherence tomography angiography shows reverse fluorescein cap sign with an echoluscent space superiorly and a bright signal at the bottom of aneurysm detecting the blood flow of the vascular malformation (B) in cavernous haemangioma of the optic nerve head.

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