

prescribed doses of phentermine hydrochloride, a Federal Drug Administration (FDA)-approved medication for the treatment of obesity.

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Sir,
Hemiretinal arterial supply by the cilioretinal artery

Cilioretinal arteries are reported to be present in up to 50% of eyes, and are considered to be the commonest retinal vascular anomaly.¹ When present, cilioretinal arteries vary in size, number, distribution, and point of origin from the optic disc. Large cilioretinal arteries can supply more than a quarter of the retinal circulation in 0.6% of cases of which 15% are bilateral.²

We present a rare case of a patient with symmetrical, bilateral cilioretinal arteries that arise temporally and supply the entire superior hemiretina.

Case report

A 75-year-old lady was referred for cataract surgery with a vision of 6/18 and 6/36 in the right and left eyes,

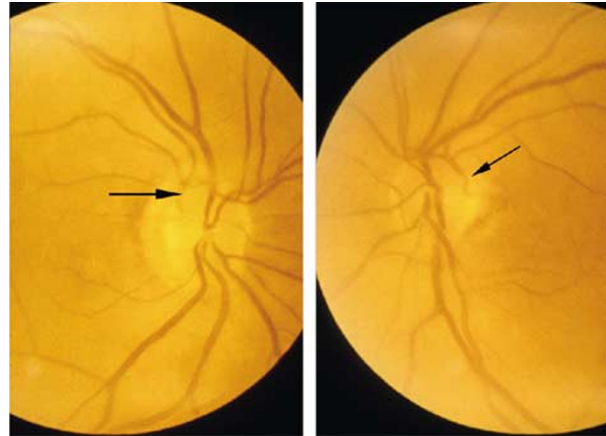


Figure 1 Right and left posterior pole fundus photographs show that there is no superior branch of the central retinal artery visible in either fundus, but a cilioretinal artery can be seen exiting the disc (arrow) with a superior hemiretinal distribution.

respectively. Examination revealed possible retinal oedema at the left macula with pigmentary changes and an incidental finding of large cilioretinal arteries supplying the superior hemiretina in both eyes (Figure 1). A fluorescein angiogram showed no neovascular membrane but highlighted the cilioretinal artery as it arose from the disc margin (Figure 2). She was otherwise healthy.

Discussion

Cilioretinal arteries arise from the short posterior ciliary arteries, as does the choroidal circulation. They make a characteristic bend as they leave the disc margin and are recognisable on fundoscopy. If rapid sequence, early-phase images are taken during fluorescein angiography, the dye fills the choroidal vessels and cilioretinal artery simultaneously, approximately 1–2 s before the central retinal artery. However, this is not diagnostic and the reverse can occur.¹

In the healthy eye, the presence or absence of a cilioretinal artery is clinically insignificant. If retinal vascular occlusion occurs, the presence of a cilioretinal artery can be a significant factor influencing visual morbidity.

In central retinal artery occlusion (CRAO), a large temporal cilioretinal artery maintains the circulation to the papillomacular and macular regions of the retina, therefore sparing central vision.

However, the cilioretinal artery itself can become obstructed. This occurs as three clinical variants, Brown *et al.*³ (1) Isolated cilioretinal artery obstruction (40%). This has a good prognosis with 90% of eyes returning to 6/12 vision and 60% to 6/6. (2) Cilioretinal artery obstruction with central retinal vein obstruction (40%).

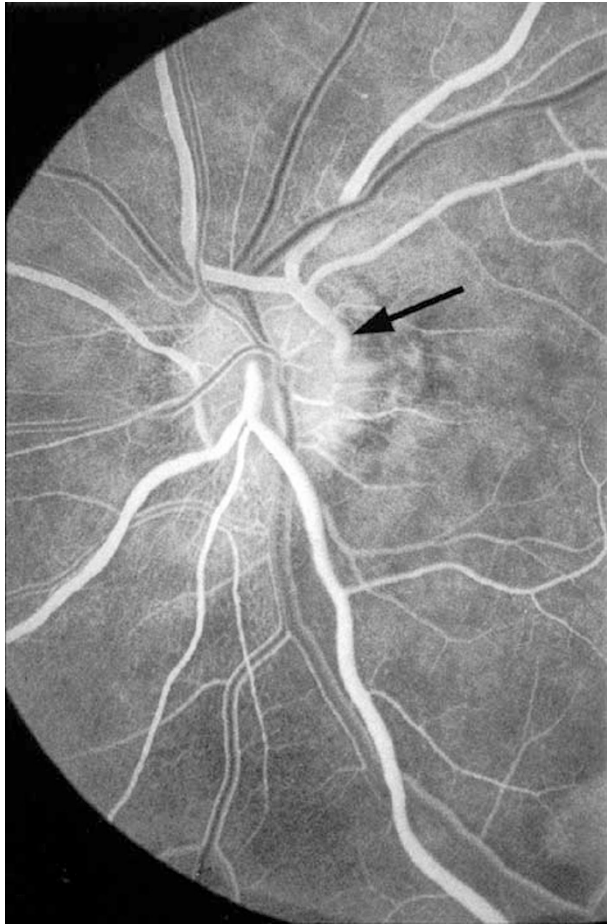


Figure 2 Fundus fluorescein angiogram of the left retina. The fluorescein dye visible in the cilioretinal artery would have filled simultaneously with the choroidal circulation before fluorescein entered the retinal arteries. Now in the early venous phase of the FFA, the dye appears faded in the cilioretinal artery circulation (arrow) while still bright in the retinal artery circulation.

Visual loss is mainly due to the venous obstruction with 70% of eyes returning to 6/12 vision or better. The cause of the cilioretinal artery occlusion in this situation can be secondary to optic disc swelling due to venous obstruction and/or reduced cilioretinal artery perfusion pressure. (3) Cilioretinal artery obstruction with ischaemic optic neuropathy (15%). This is a consequence

of posterior ciliary artery insufficiency. The severity of the optic neuropathy determines the visual outcome which is generally poor, that is, 6/120—no perception of light.

With respect to our patient, the large retinal distribution of their cilioretinal circulation suggests a reasonable preservation of vision should a CRAO occur, but a worse visual prognosis than quoted, in the presence of cilioretinal artery obstruction. It is not known whether or not the size of a cilioretinal artery is a predisposing factor for the development of a cilioretinal artery obstruction. Future reports may give a better indication of this.

Acknowledgements

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