

Irimpan Lazar FRANCIS, Mohan RAMALINGAM, Nadir Ali MOHAMED ALI



A 56-year-old moderately nourished and built man was referred with sudden painless and persistent loss of his left eye vision. This had started in the morning while bathing. He had diabetes mellitus, hypertension and hyperlipidemia on regular treatment. There was no other relevant history. Examination revealed that his unaided visual acuities were only for 'hand motion' with a mild improvement in the inferior field, in the left eye with no further improvement and 6/6 in the right eye. Intraocular pressure was normal in both eyes. The anterior segments were normal with relative afferent pupillary reaction in the left eye. Fundus examination showed a normal fundus pattern in the right eye. The left eye's fundus is shown above (**Panel**).

Q: What is the diagnosis?

Answer: refer to page 62

Correspondence author: Irimpan Lazar FRANCIS
Department of Ophthalmology, RIPAS Hospital,
Bandar Seri Begawan BA1710,
Brunei Darussalam.
Tel: +673-8772253
E mail: fri150@hotmail.com

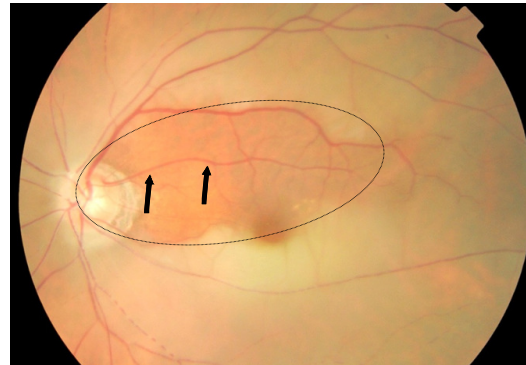
(Refer to page 37)

Answer: Left acute central retinal artery occlusion with a patent cilio-retinal artery

Central retinal artery occlusion (CRAO) is a rare retinal vascular condition, and has been reported in all age groups including children. The highest incidence is in the sixth decade of life. ¹ Acute CRAO is characterised by a pale optic disc with pale and oedematous retina of the posterior pole, cherry-red spot (a heightened foveal reflex in contrast to the pale and oedematous retina), arterial attenuation and cattle-truck appearance due to intravascular segmentation of the blood column in the occluded vessel. In this patient, a small area of normal looking retina is visible temporal to the left optic disc extending to the superior aspect of the fovea, supplied by a patent cilio-retinal artery (**Panel**).

The exact aetiology of CRAO is unclear. Embolism, thrombosis and vascular compression are considered as possible causative mechanisms. Emboli – calcified, thrombotic, myxomatous, bacterial or cholesterol are of carotid or cardiac origin. Atherosclerosis, giant cell arteritis or other types of vasculitis may cause vaso-obliteration. A retrobulbar mass may cause central retinal artery compression.

The management of CRAO should be considered an ocular emergency and is the



The left fundus and the normal looking area is indicated by the dotted shape supplied by a patent cilio-retinal artery (arrows).

ocular analogue of cerebral stroke. ² Therapy for this condition remains unclear. ³ The main principle in the management CRAO includes: (a) Immediate: attempt to improve the perfusion of the retina in the affected eye (b) Intermediate: prevent secondary neovascular complications to the affected eye - neo-vascular glaucoma is reported in 20% of cases; and (c) Long term: given the sight-threatening nature of the condition, prevent vascular events to the other eye or other end-organ by investigating and treating the underlying cause. Several therapeutic methods such as digital ocular massage, acetazolamide infusion, vasodilators, anterior chamber paracentesis, inhalation of carbogen/hyperbaric oxygen, Yag Laser embolectomy and Thrombolysis have all been tried to restore vision in CRAO, however, none have shown to alter the natural history of the disease process. ⁴

REFERENCES

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