Ocular ischaemic syndrome secondary to direct carotid-cavernous fistula: a case report

See Yeo Kim[1], Benjamin Lim Ching How[1], Christine Ong Pei Yee[1], Ang Ee Ling[1], Julieana Muhammed[2]

[1]Department of Ophthalmology, Hospital Pulau Pinang, Malaysia, [2]Department of Ophthalmology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia

ABSTRACT

Ocular ischaemic syndrome (OIS) is a rare but serious condition cause by blockage or severe narrowing of carotid arteries. We report a case report of OIS secondary to indirect carotid-cavernous fistula (CCF). A 54-year-old woman with underlying type-2 diabetes mellitus, complained of persistent painless left eye redness for two years. She denied history of ocular trauma prior to the redness. On examination, her both eyes vision was 6/9. The left eye exhibited mild non-axial proptosis, with Hertel exophthalmometer measuring 12mm OD and 14mm OS at a base of 98mm. Both eyes' optic nerve function tests were normal and extraocular muscle movements were full. The anterior segment of left eye revealed corkscrew vessels with intraocular pressure of 17mmHg. There was no neovascularization in iris and gonioscopy examination showed open angle. Fundus examination of left eye showed multiple coin shaped blot haemorrhages at mid peripheral region and tortuous vessels, with no new vessels. Right eye anterior segment unremarkable and fundus showed moderate non-proliferate diabetic retinopathy. Her fasting lipid profile and fasting blood sugar were normal. Contrasted computed tomography of the orbit and brain revealed left CCF with a dilated left superior ophthalmic vein. She was co-managed with neurosurgical team and digital subtraction angiography brain confirmed left indirect CCF (barrow type D). She was scheduled for embolization surgery. This case underscores the importance of early diagnosis and intervention in patients with indirect CCF complicated by OIS. Timely treatment can improve patient outcomes and preserve visual function.