



BILATERAL OCULAR ISCHEMIC SYNDROME SIVASUBRAMANIYAM M

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Abstract : Ocular ischemic syndrome is a rare condition, which is caused by ocular hypoperfusion due to stenosis or occlusion of the common carotid or internal carotid arteries. Atherosclerosis is the major cause of changes in the carotid arteries. Here we report a case of bilateral ocular ischemic syndrome in a 51 year old male who presented to us with complaint of defective vision in right eye. On examination patient was having neovascularization of iris in both eyes, neovascularization of the disc in left eye and mature cataract in right eye. Patient was suggested to undergo carotid doppler and fundus fluorescein angiography. Carotid doppler showed severe carotid artery stenosis on both sides and Fundus Fluorescein Angiography showed features suggestive of ocular ischemic syndrome. Patient underwent panretinal photocoagulation in left eye and is awaiting cataract surgery in right eye followed by repeat Fundus Fluorescein Angiography.

Keyword : Ocular Ischemic Syndrome, Carotid Artery Stenosis, Neovascularization

CASE REPORT:

51 year old male presented with chief complaint of defective vision in right eye with history of occasional giddiness. He is a known case of diabetes mellitus on regular treatment with oral hypoglycemic agents for past 4 years. His vision was Perception of Light in right eye and 6/18 in left eye. Tension was 14.6 mm HG in both eyes. Anterior segment examination showed presence of neovascularization of iris (Fig.1) in both eyes(2), mature cataract in right eye and Grade I nuclear sclerosis in left eye. On fundus examination of left eye, neovascularization of the disc (Fig.2) was noted with normal arterio-venous ratio and macula was normal. B-scan of the right eye showed normal posterior segment. A provisional diagnosis of bilateral ocular ischemic syndrome was made and patient was suggested to undergo carotid doppler and fundus fluorescein angiography. Fundus Fluorescein Angiography of left eye showed delayed filling of choroidal vasculature with delayed arterio-venous transit time and neovascularization of the disc (Fig.3). Carotid doppler showed severe stenosis of common carotid arteries and proximal

internal carotid arteries on both sides. Patient was diagnosed with bilateral ocular ischemic syndrome (1) and was advised panretinal photocoagulation (3) in left eye and cataract surgery in right eye followed by repeat Fundus Fluorescein Angiography. Patient underwent Panretinal Photocoagulation in left eye and is awaiting cataract surgery in right eye.

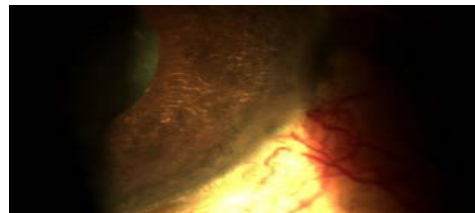


Fig.1 - Slit Lamp Picture of Right eye showing Neovascularization of Iris

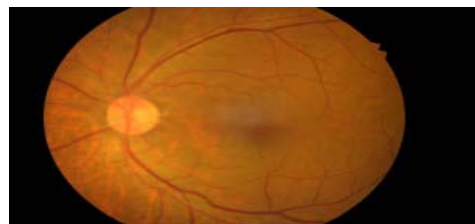


Fig.2 - Fundus Picture of Left Eye showing Neovascularization of the Disc

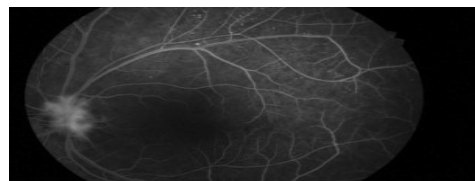


Fig.3 - FFA Picture of Left Eye showing Neovascularization of the Disc

DISCUSSION:

Ocular ischemic syndrome (1) is a rare, but vision threatening condition associated with severe carotid artery occlusive disease leading to ocular hypoperfusion. Principal symptoms include visual loss, light-induced transient visual loss, and ischemic ocular pain (4). Ocular ischemic syndrome commonly occurs in the elderly with men more affected than women, owing to the higher incidence of atherosclerosis and carotid artery disease in these patients. Ocular ischemic syndrome has important systemic implications, as disease of the common or internal carotid arteries may cause ipsilateral ocular signs and symptoms that in turn could herald a cerebral infarction. Fluorescein angiography can help to establish the diagnosis. Characteristic findings are delayed choroidal filling time (most specific angiographic sign) and prolonged arteriovenous transit time (most sensitive angiographic sign). Staining of the retinal vessels is also commonly seen. The management of ocular ischemic syndrome involves a multidisciplinary approach. The aim is threefold, firstly to treat the ocular complications and prevent further damage, secondly to investigate and treat the associated vascular risk factors, and thirdly to perform vascular surgery whenever indicated. The ocular treatment is directed toward control of anterior segment inflammation, retinal ischemia, increased intraocular pressure and neovascular glaucoma (2). Panretinal photocoagulation (3) may be effective in patients with ocular neovascularization caused by carotid occlusive disease and may prevent development of neovascular glaucoma.

REFERENCES:

1. Hart, CT, Haworth, S. Bilateral common carotid occlusion with hypoxic ocular sequelae. *Br J Ophthalmol.* 1971;55:383–388
2. Hoefnagels, KLJ. Rubeosis of the iris associated with occlusions of the carotid artery. *Ophthalmologica.* 1964;148:196–200
3. Eggleston, TF, Bohling, CA, Eggleston, HC et al, Photocoagulation for ocular ischemia associated with carotid artery occlusion. *Ann Ophthalmol.* 1980;12:84–87
4. Kahn, MK, Green, WR, Knox, DL et al, Ocular features of carotid occlusive disease. *Retina.* 1986;6:239–252

