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A CASE OF BILATERAL OCULAR ISCHEMIC SYNDROME IN TAKAYASU ARTERITIS

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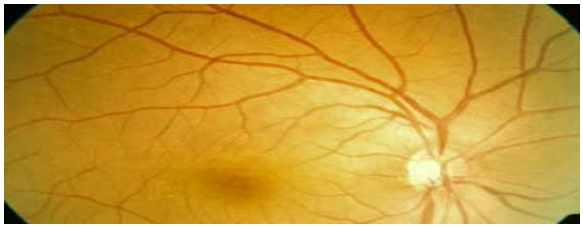
Abstract :
Ocular ischemic syndrome is an uncommon vision threatening condition with variable clinical presentation, caused by ocular hypoperfusion due to stenosis or occlusion of the common or internal carotid arteries. It is usually unilateral in 80 percent of cases and affects both anterior and posterior segments. We report a case of bilateral ocular ischemic syndrome secondary to Takayasu arteritis ,which initially presented as a unilateral disease and showed bilateral involvement sequentially.

Keyword :
ocular ischemic syndrome, Takayasu arteritis

CASE REPORT

A 45 year old female, a non diabetic and normotensive with known case of Type V Takayasu arteritis presented with defective vision, pain and redness in the left eye for 3 months . Her best corrected visual acuity was 6/12 in the right eye and perception of light in the left eye. Anterior and posterior segments were normal in the right eye while left eye showed clear cornea with 1(+) cells, flare, ectropion uvea, and iris neovascularisation (NVI) with complicated cataract. Left eye pupil was 6mm not reacting to direct and indirect reflex. Intraocular pressure by Applanation tonometry 14mmHg in both eyes. Gonioscopy showed closed angle in nasal and temporal quadrant with peripheral anterior synchiae. B scan was normal. We made a diagnosis of type 4 Takayasu retinopathy and patient was treated with intravitreal Bevacizumab in left eye ,following which new vessels regressed and subsequently patient underwent an uneventful cataract surgery. Postoperatively LE vision was 2/60.Fundus examination of the left eye showed preretinal hemorrhage, vitreous hemorrhage and proliferative retinopathy for which panretinal photocoagulation was performed. CT Aortagram and CT brain was done 4 months back and showed total occulsion of left common cartoid artery with occulsion of left subclavin artery with celiac artery osteal stenosis and 90% stenosis of right renal artery. Suggestive of type V Takayasu Arteritis. CT BRAIN: showed Infarct in MCA territory



FIQURE -1 Right eye fundus photograph showing dialated veins

Figure-2 Left eye fundus showing panretinal photocoagulation marks.

During follow up patient reported deterioration of vision in the right eye. Her BCVA was 6/24 in the right eye. Anterior segment showed 1+ cells otherwise normal. On fundus examination dilated veins were seen. On Fundus Fluorescein Angiography (FFA) RE showed dilated and beading of retinal veins and tributaries with minimal leakage from dilated veins towards the end of angiogram, few microaneursyms and capillary nonperfusion in the periphery. Visual acuity in the LE remains unchanged ,anterior segment showed regressed NVI and fundus examination releaved resolving preretinal hemorrhages. FFA LE showed 3600 capillary nonperfusion with beading of veins and mild leakage from disc and new vessels elsewhere suggestive of NVD and NVI .Patient is under regular follow up

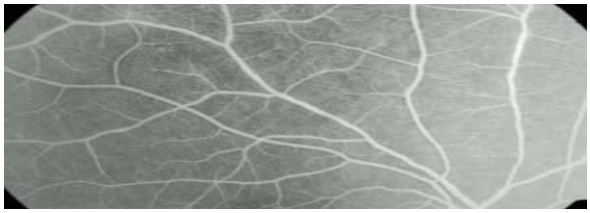


Figure 3: FFA RE showed dilated and beading of retinal veins and tributaries with minimal leakage from dilated veins , few microaneursyms and capillary nonperfusion in the periphery

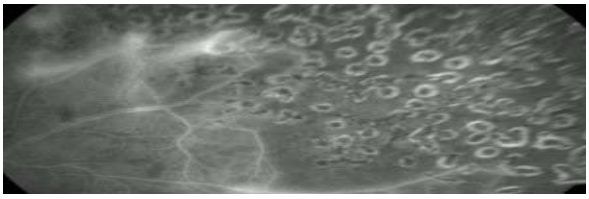


Figure 4:FFA LE showed 3600 capillary nonperfusion with beading of veins and mild leakage from disc and new vessels.

DISCUSSION

Takayasu arteritis is an inflammatory vascular disease of the young and involves primarily the large arteries mainly aorta and its branches. This causes attenuation and obliteration of the branches of the aorta leading to cerebral and ocular ischemia. The ischemic ocular manifestations in Takayasu arteritis is Takayasu retinopathy. It can be classified by 4 stages by Uyama and Asayma1.

Stage 1: Distension of veins,

stage 2: Micro-aneurysm formation

stage 3: Formation of arterio-venous anastomoses

stage 4 :Presence of ocular complications like cataract, rubeosis iridis, retinal ischemia, neovascularization and vitreous hemorrhage Our case presented with type 4 Takayasu retinopathy .The ischemic retinal changes in Takayasu arteritis depend on the portions of the carotid arteries that were occluded, the rate of development and duration of ocular vascular insufficiency, and the effectiveness of collateral blood supply to the eye2. In this case patient had total occlusion of left subclavian and common carotid artery with celiac artery stenosis suggestive of Takayasu arteritis type V and carotid endarterectomy was done. Ocular ischemic syndrome (OIS) is a rare condition, caused by ocular hypoperfusion due to stenosis or occlusion of the common or internal carotid arteries. Atherosclerosis is the major cause of changes in the carotid arteries. Most patients are older than 55 years of age. Typically, a 90% of these patients are unilateral, both eyes are involved in about 20% of cases3 . An interesting feature in this case is the relatively young age of presentation and bilateral involvement. This is due to occlusion of left common carotid artery, subclavian artery with celiac artery osteal stenosis and aorto arteritis (Type V Takayasu arteritis). The symptoms may be acute or chronic. Chronic onset of visual loss is due to gradual ischemia that leads to progressive vascular occlusion of the arteries as evidenced in our patient with ocular ischemic syndrome. OIS affects both anterior and posterior segments. Anterior segment ischemic signs are conjunctival chemosis and congestion, uveitis neovascularization in the iris , fixed semi-dilated pupil and cataract. Posterior segment ischemic signs are narrowed retinal arteries, dilated retinal veins, retinal hemorrhages, microaneurysms, and neovascularization of the optic disc and/or retina . These findings were immediately point to the diagnosis of ocular ischemic syndrome4. One of the most striking features is the normal intraocular pressure (14 mm Hg) despite anterior segment neovascularization and uveal ectropion, thought to be due to ciliary body ischemia and reduced aqueous humor production. The characteristic findings in FFA are delayed choroidal perfusion and non-filling of retinal vessels 4 . The above mentioned clinical features were seen in our patient also. Patient is kept under regular follow up for ischemic signs in the right eye. The natural history of vision in eyes with OIS is uncertain, but when rubeosis iridis is present more than 90% of those eyes are legally blind within a year after the diagnosis is discovered. For this reason , timely diagnosis and intervention is essential4. In this case patient was treated with intravitreal bevacizumab (avastin) at the time of presentation to prevent neovascular glaucoma and patient subsequently underwent cataract surgery. Later panretinal photocoagulation was done for proliferative retinopathy. This case is presented because prompt diagnosis and intervention has helped the patient to get the useful vision.

CONCLUSION

The detailed workup is warranted in all patients with ocular ischemic syndrome to look for systemic associations such as carotid or coronary occlusive disease, atherosclerosis, hypertension and diabetes mellitus. In the absence of any of these, one may look for other, rarer associations such as giant cell arteritis, aortic arch syndrome and Takayasu arteritis. Few cases has been reported of bilateral ocular ischemic syndrome secondary to Takayasu arteritis.

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