CENTRAL RETINAL ARTERY OCCLUSION DUE TO BLUNT OCULAR TRAUMA ASSOCIATED WITH ROAD TRAFFIC ACCIDENT: A RARE CASE REPORT

ABSTRACT

We present a case of central retinal artery occlusion (CRAO) associated with blunt ocular trauma without involvement of optic nerve. A 40-year-old male patient was brought to the emergency department of a tertiary care hospital in the western province of India with a history of head injury due to road traffic accident. External ocular examination of right eye revealed lacerated wound with edema and ecchymosis in upper eyelid, temporal subconjunctival hemorrhage, mid-dilated and non-reacting pupil on direct light reflex. Fundus examination of right eye with indirect ophthalmoscopy showed disc pallor, severe arteriolar attenuation with absent arterial pulsations on digital pressure, box carrying of retinal veins, cherry red spot at macula and white out retina. A clinical diagnosis of right eye central retinal artery occlusion was made. Patient was immediately treated with ocular massage in right eye and intravenous mannitol 300ml. Repeat fundus examination showed reappearance of arterial pulsation on digital pressure in right eye. To the best of our knowledge, this is a rare case of CRAO without involvement of optic nerve following blunt ocular trauma. We feel that it is important to consider this rare but visually catastrophic condition in the differential diagnosis of acute post-traumatic visual loss.

KEYWORDS

Central Retinal Artery Occlusion, Blunt Ocular Trauma, Road Traffic Accident, Head Injury
was called to eye OPD for FFA and OCT examination. Right eye anterior segment examination was same as before. The right eye fundus findings were same as before on 7th day of examination. (fig 2a)

FFA showed no delay in arteriovenous transit time, normal choroidal filling suggestive of reperfusion of vessels (fig 3).

On follow up examination of right eye after one month visual acuity was no perception of light, mid dilated not reacting pupil on direct light reflex. Fundus examination revealed Optic atrophy, minimal arteriolar attenuation, cherry red spot at macula and no retinal edema (fig 2b).

DISCUSSION:
The incidence of central retinal arterial occlusion is estimated to be around 0.85/100,000 per year.[2] Various causes of arterial occlusion include embolism, thrombosis, atherosclerosis, congenital/acquired thrombophilic states, vasculitis, infectious, iatrogenic, ocular trauma, vasospasm, raised intraocular pressure etc.[2]

CRAO after blunt trauma, though rare, can be caused by compression of the central retinal artery by hematoma[3], by air in case of orbital emphysema[4], or raised intra orbital pressure resulting from swelling of orbital soft tissue. In these conditions, damage to endothelial cells of the artery stimulates platelet aggregation and thrombus formation.[1]

In our case, inspite of orbital wall fractures, there was no injury to optic nerve as per radiological findings. Moreover there were no signs of orbital hematoma or raised intraocular pressure. Hence in our case, the probable mechanism of CRAO could be severe reflex vasospasm initiated as a direct response to concussion injury to the arterial smooth muscle.

REFERENCES: