

CASE REPORT

SCLOPETARIA DUE TO SUB CONJUNCTIVAL FOREIGN BODY: A CASE REPORT

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ABSTRACT: PURPOSE: To present a case of Sclopetaria with vitreous haemorrhage due to sub conjunctival foreign body. **BACKGROUND:** Sclopetaria is a severe contusion lesion of the retina, as from a shot gun pellet or BB gun; the word sclopetum, a fourteenth century italian hand gun¹. It is a term first used in German literature to describe retinochoroidal trauma secondary to high velocity projectile passing through or adjacent to the orbit.

KEYWORDS: Sclopetaria, chorioretinal rupture, foreign body, BB gun, vitreous haemorrhage.

CASE REPORT: A 13 year old child with history of 8 day old foreign body in his right eye was referred to our outpatient for suspected retained intraocular metallic foreign body. Child sustained injury to his right eye accidentally while playing, following which he was treated symptomatically for redness and pain. Parents noticed a small nodular swelling in his right eye 3 days later, shown to local ophthalmologist, imaging was ordered and he was referred to the tertiary eye care centre with the above said diagnosis. On examination, subconjunctival haemorrhage with visible posterior extent and a 2x2 cm tender nodular swelling was noticed in the right superotemporal quadrant, 1cm away from the limbus. Anterior segment findings were essentially normal with few anterior vitreous cells. Fundus revealed inferior settled vitreous haemorrhage with hazy media. Superotemporal quadrant near periphery showed preretinal and intraretinal haemorrhage with underlying white exudative lesion. Macula and optic disc were normal. No counter-coup injuries were seen. Visual acuity was 6/9 throughout the course.

CT report read radio dense foreign body, attenuation value of about 2417 HU and measuring 0.32x0.34cm seen at superolateral aspect of RE flush with the ocular outline and or within coats of the eyeball.

Ultrasound B scan showed vitreous haemorrhage and no evidence of intraocular foreign body or retinochoroidal detachment.

A diagnosis of RE sclopetaria with subconjunctival/ intrascleral metallic foreign body was made and planned for IOFB exploration with prophylactic cryopexy. Conjunctival peritomy revealed freely mobile metallic FB in the subconjunctival space within the tenons; which was removed and prophylactic cryo applied to the injury site. Postop was uneventful with resolving vitreous haemorrhage. At 1 month follow up, child is better with 6/6 vision and resolving subconjunctival and vitreous haemorrhage.

DISCUSSION: Sclopetaria is defined as a full thickness break of the choroid and retina as a result of a high velocity missile striking or passing adjacent to, but not penetrating the globe.¹ The first case caused by a shotgun, was described by Goldzeiher² in 1901 as chorioretinitis

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plastica sclopetaria. Other terms used to describe the same entity were chorioretinitis proliferans, retinitis proliferans, acute retinal necrosis. At present, the term traumatic chorioretinal rupture (TCR) or sclopetaria is more acceptable than chorioretinal sclopetaria since the rupture is due to trauma and not due to inflammation.

Reported cases of TCR have occurred as a result of missiles and bullets penetrating into the orbit^{3,4,5,6} as well as unusual objects such as fishing line sinkers.⁷ Sclopetaria due to miniscule metallic foreign body adjacent to the globe has not been reported in literature so far.

The vitreous may be clear or hemorrhagic with extensive choroidal and retinal hemorrhages. Sclera appears intact and often white proliferative tissue and associated pigmentary disturbance is seen. The peripheral findings are manifestation of direct trauma and macular disruption may also occur as result of indirect countercoup trauma generated by concussive force of the missile passing close to the globe. The strength of these forces is proportional to the size and velocity of the projectile and may be significant enough to cause remote choroidal and macular rupture. In general visual acuity at presentation is related to the prognosis and extent of damage; poor presenting visual acuity carries a worse prognosis for the patient.⁸

The pathogenesis of TCR has described by Martin et al.⁸ They proposed that rapid deformation of the globe by a high velocity object or its shock wave causes a sudden increase in the stress in the sclera, choroid, retina and posterior vitreous cortex. Rupture occurs in areas where the induced tensile force is greater than the tensile strength of the tissue.

TCR is accompanied by retraction of the retina and choroid and exposure of bare sclera. Moses⁹ demonstrated that the scleral attachments to the choroid are practically non-existent between the ora serrata and the equator and; that the choroid is under constant tension and will retract, exposing to bare sclera when cut. Therefore, rupture of the retina and choroid occurs before separation of retina from choroid, and the chorioretinal complex is displaced and retracted as a single unit.

TCR is a rare event and thus there are only a few case series and reports regarding the management of these patients in the literature.^{3, 8} Most of the eyes are managed initially by observation only. Risk of RD in these patients is low in view of [1] the choroid and retina appear to retract as a single unit, preventing access of fluid to the subretinal space; [2] the posterior hyaloid remains intact over the region of the rupture and may prevent access of liquefied vitreous into the subretinal space; and [3] patients are mostly young and they have formed vitreous, lowering the risk of RD. In sclopetaria, retraction of choroid and retina reveals bare sclera without scleral rupture. Vitreous haemorrhage is followed by proliferation of fibrous tissue that creates a firm adhesion of retina and choroid to sclera, preventing fluid access to subretinal space lowering chances of RD.

Interestingly, in contrast to breaks in Bruch's membrane that are known to predispose formation of choroidal neovascularization; this has not been reported in any of the published cases of TCR. Perhaps, the fibrinous material present at the site of injury may act as a deterrent.¹⁰

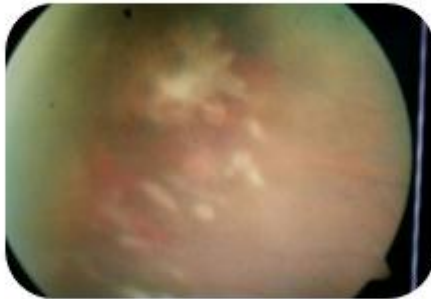
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CONCLUSION: Sclopetaria following high velocity BB or air gun pellets have been described in the literature. An attempt has been made to present a rare case report of sclopetaria following a miniscule metallic subconjunctival foreign body. Most cases of sclopetaria have no complications but, retinal detachment and macular hole have been reported as rare complications so far. Sclopetaria does not require active intervention for chorioretinal rupture, but warrants long term periodical follow up.

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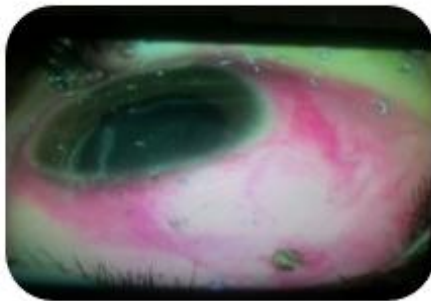
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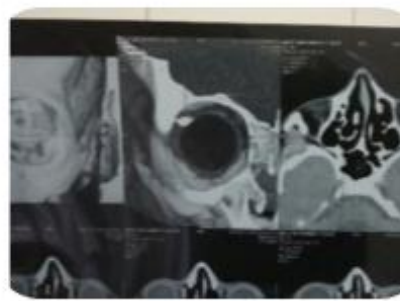
Colour fundus showing white exudative lesion with superficial and deep retinal hemorrhages near periphery



Posterior pole showing normal disc and macula



Per operative photo showing metallic foreign body within the tenons 1 cm away from the limbus



Coronal CT showing radiodense foreign body embedded within the ocular coats

Colour plates: sclopeteria due to subconjunctival foreign body: a case report

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