

Case Report

A case of subretinal hemorrhage due to choroidal tear in right eye following blunt trauma in a 35 years old female

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ABSTRACT

A 35-year-old Asian Indian female presented to our institute with a history of fall on road and accidental hit by stone over her right eyebrow, grossly no anterior segment abnormality was noted. On dilated fundus examination, a superotemporal choroidal tear was noted which led to choroidal hemorrhage. Patient was managed conservatively by giving oral steroids and tablet vitamin C. After 2 months of treatment there was complete resolution of the lesion with a final best corrected visual acuity of 6/6.

Keywords: Blunt trauma, Subretinal hemorrhage, Choroidal tear

INTRODUCTION

A choroidal rupture occurs as a result of traumatic mechanical event directly at the site of contusion or more commonly away from the impact. The force buckles the globe in the area of impact and causes stress folding of the globe wall at peripheral site resulting in choroid, retinal pigment epithelium and Bruch membrane complex to stretch and break. It is 3 times more commonly observed in closed globe injuries.¹ If not treated then it can lead to dimness of vision and overtime choroidal neovascular membranes develops with or without serous or hemorrhagic pigment epithelial detachment.² Approximately 5-25 % cases of choroidal rupture develop persistent choroidal neovascularization with substantial loss of central vision.³

CASE REPORT

A 35-year-old Indian female came to our department with complain of dimness of vision in right eye following blunt trauma to right eye by hit of stone over right eyebrow. Visual acuity in right eye was 6/36 which was not improving with correction and that in left eye was

6/6. Intraocular pressure in right eye was recorded less than 4 mmHg. Anterior segment examination was unremarkable. Dilated funduscopy showed 3x6 mm size subretinal hemorrhage following a choroidal rupture in the superotemporal quadrant superior to disc. Computed tomography scan of brain and orbit was unremarkable with no evidence of orbital fracture or intraocular foreign body. Left eye examination was normal.



Figure 1: 3x6 mm size subretinal hemorrhage following a choroidal tear in right eye.

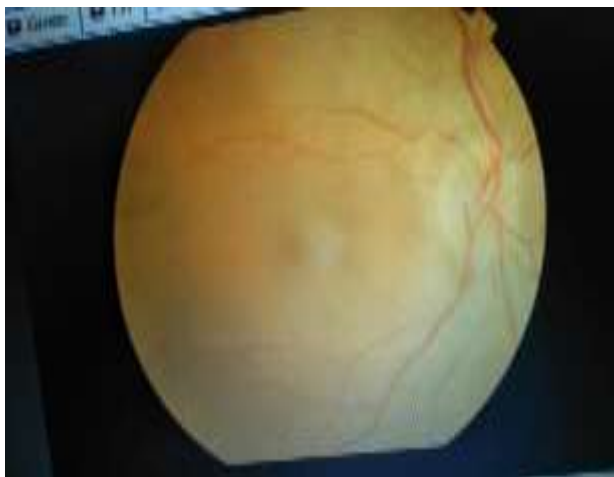


Figure 2: Healed choroidal tear and absorption of hemorrhage after 2 months of treatment in right eye.

Patient was managed by giving topical NSAIDS and antiglaucoma agent to reduce inflammation and prevent secondary glaucoma. Systemic oral steroids as per body weight with tablet vit C was given and tapered gradually over time.

DISCUSSION

After 2 months of treatment, the hemorrhage was reabsorbed completely, intraocular pressure was 14 mmHg and healed scar of choroidal tear was present. Patient's visual acuity in right eye was 6/6 with correction. Amsler grid was given to patient to look for any metamorphopsia and any changes in grid was asked to be reported.

A similar case was reported by Adhi et al at department of ophthalmology and visual sciences, at New Orleans, LA, USA. A conservative approach without intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections was chosen for management and few weeks later, there was spontaneous regression of the choroidal neovascular complex as depicted on OCT angiography and complete resolution of subretinal fluid/exudation on structural OCT.⁴

A study was carried out by Ament et al on 111 patients with traumatic choroidal tear at retina service and angiogenesis laboratory; Massachusetts eye and ear infirmary, Harvard medical school, USA which showed that thirty-eight (34%) of the 111 patients recovered driving vision (VA \geq 20/40). Recovery of driving vision was seen in 20 (59%) of 34 eyes with peripheral choroidal ruptures.⁵

The clinical diagnosis of a choroidal rupture can be made during ophthalmoscopic examination of fundus. Fundus Fluoresceine angiography of these lesions shows hypo-fluorescence in early frame due to break in choriocapillaris and choroidal vessels at the rupture site

with staining at late frames due to leakage from adjacent choriocapillaris; if choroidal neovascularization is present, hyper-fluorescence that progressively increase in size and intensity will be seen with time.¹

Auto-fluorescence of rupture site will show hypo-fluorescence of wound site where retinal pigment epithelium is missing with hyper-fluorescence at the edge of choroidal rupture. Optical coherence tomography shows loss of continuity of retinal pigment epithelium at the site of rupture with thinning of underlying inner choroid.¹ No laboratory evaluation is necessary since eyes with choroidal rupture have a history of recent or remote blunt trauma to that eye.

Differential diagnosis

Lacquer cracks in high myopic eye are usually bilateral and not caused following blunt trauma. It is usually associated with a posterior staphyloma.

Angioid streaks are breaks in the degenerated and mineralized Bruch's membrane are also often bilateral. They may be idiopathic or associated with pseudoxanthoma elasticum, sickle cell disease, acromegaly, Paget's disease of bone.

Observation is recommended with Amsler grid monitoring. However, in the presence of choroidal neovascularization; anti vascular endothelial growth factor agent can be used.

We planned a fundus fluorescece angiography to look for choroidal neovascular membranes after 6 months; but patient was lost to follow up.

CONCLUSION

In cases of closed globe injury owing to a blunt trauma; we suggest proper history taking as well as proper examination of anterior and posterior segment to make a clinical diagnosis and the treatment should be started to prevent complications.

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REFERENCES

1. Choroidal Rupture-Eye Wiki. Available at: https://eyewiki.aao.org/Choroidal_Rupture. Accessed on November 3, 2021.
2. Gitter KA, Slusher M, Justice J. Traumatic Hemorrhagic Detachment of Retinal Pigment Epithelium. Arch Ophthalmol. 1968;79(6):729-32.
3. Shah TJ. Choroidal Rupture with Choroidal neovascularization. EyeRounds.org. Available at: <http://EyeRounds.org/cases/298-Choroidal-Rupture.htm>. Accessed on June 10, 2020.

4. Adhi M, Reinoso M. Spontaneous regression and quiescence of choroidal neovascularization secondary to traumatic choroidal rupture depicted on OCT angiography. *Eur J Ophthalmol.* 2021;17:11206721211059030.
5. Ament CS, Zacks DN, Lane AM, Krzystolik M, D'Amico DJ, Mukai S et al. Predictors of visual outcome and choroidal neovascular membrane

formation after traumatic choroidal rupture. *Arch Ophthalmol.* 2006;124(7):957-66.

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