

Stephen Potter, Gibran Khurshid*

University of Florida, Gainesville, USA.

***Corresponding Author:**

Gibran Khurshid,
University of Florida, Gainesville, USA.
E-mail: syedgibran@yahoo.com

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Purpose

To report a case of self-induced bilateral giant retinal tears due to fist trauma.

Introduction

A giant retinal tear (GRT) is defined as a full-thickness neurosensory retinal break extending circumferentially around the fundus for 90 degrees (or three or more clock hours) in the presence of detached vitreous [1]. They most often occur spontaneously (idiopathic 70%) but are associated with direct trauma in 20-25% of cases [2]. Other etiologies include high myopia, post-surgical, and hereditary vitreoretinopathies, amongst others. According to large population-based studies, GRTs incidence has been estimated as approximately 1.5% of all rhegmatogenous retinal detachments. In addition, GRTs have been found to have significant male preponderance and roughly 12.8% are bilateral [1].

While uncommon, GRTs often carry a guarded prognosis as they generally develop quickly and frequently result in extensive retinal detachments. Moreover, some cases progress to proliferative vitreoretinopathy which reduces rates of surgical success and further guard visual prognosis. Furthermore, the unaffected eye in patients with unilateral GRTs is at an increased risk of developing a GRT or retinal detachment.

Case Report

A 25 year old otherwise healthy Caucasian male presented to our emergency department reporting gradual decline in the vision of the right eye over at least the last two months. The patient reported no significant past medical history. He noted a black curtain has been present for two months but he felt the vision in the

left eye was stable and “perfectly fine.” Three months ago, after becoming upset with his significant other, he punched himself repeatedly in both eyes out of anger. He disclosed several occasions of self-inflicted fist trauma to both eyes. His uncorrected visual acuity was counting fingers at 3 feet in the right eye and 20/60- in the left eye. His intraocular pressure was 16 and 20 in the right and left eyes, respectively. A relative afferent pupillary defect was present in the right eye. Confrontational visual fields revealed total superior temporal, inferior temporal, superior nasal, and inferior nasal deficiencies in the right eye and total inferior deficiency in the left eye. Anterior slit lamp examination revealed dense traumatic 2+ central posterior subcapsular cataract (PSC) in the right eye and dense traumatic 3-4+ central PSC in the left eye. Dilated fundus examination of the right eye revealed a 4 clock hour giant retinal tear with total retinal detachment and fixed retinal folds. Dilated fundus examination of the left eye revealed a giant superior retinal tear with superior macular on retinal detachment.

The patient was explained the severity of findings and need of urgent repair of the left eye given macula on status. After discussed risk, benefits, and complications he was signed up for pars plana vitrectomy, silicone oil of the left eye and later pars plana vitrectomy, retinectomy, silicone oil of the right eye. The plan is to perform removal of silicone oil and traumatic PSC cataract extraction at a later date.

Discussion

Although most GRTs are idiopathic (55-65%), the most common predisposing factor for the development of GRT is trauma with percentage varying across different studies (4-31%) [1]. The Epidemiology of giant retinal tears in the United Kingdom: The British Giant Retinal Tear Epidemiology Eye Study reports trauma as the causative factor in 16.1% of 60 GRT cases [3]. There are cases of GRTs due to non-accidental trauma in a 4 month old and eye gouging in rugby football reported in the literature [2, 4]. This case, however, is the first to our knowledge report of self-induced bilateral giant retinal tears secondary to self-inflicted fist trauma.

References

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