

case report

Self-inflicted eye injury

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Individuals with a factitious ocular disorder feign or exaggerate having an eye injury or intentionally produce an eye injury so as to assume the role of a sick person. We report two cases of self-inflicted ocular injury using needle-like foreign bodies and razor that represent possible diagnoses of Munchausen syndrome. Both patients presented with different clinical pictures that misguided the clinical diagnosis and delayed proper management. Although self-inflicted ocular injuries are rare, ophthalmologists should be aware of the possibility of their existence, particularly when caring for patients with psychiatric conditions.

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Individuals with a factitious ocular disorder feign or exaggerate having an eye injury or intentionally produce an eye injury so as to assume the role of a sick person.¹ This type of injury may result in substantial ocular morbidity, ranging from minor conjunctivitis to severe forms of self-mutilation, including enucleation. Research has revealed that the majority of self-inflicted ocular injuries with an underlying psychological cause are associated with schizophrenia.² Munchausen syndrome (factitious disorder imposed on self) is characterized by falsification of physical or psychological signs or symptoms where there are no obvious rewards explaining why the individual is deceiving others. This behavior is not explained by other mental disorders such as delusion or psychosis.³ We report two cases of self-inflicted eye disorders with a possible diagnosis of Munchausen syndrome and describe their clinical presentation. We provide a brief literature review of similar disorders.

CASE 1

A 43-year-old man, working as a hospital clerk at a secondary hospital presented to the emergency department (ED) claiming that ocular trauma to the right eye was from an accidental encounter with the branch of a short palm tree. Examination of the right eye revealed a visual acuity of 20/40 and an intraocular pressure (IOP)

of 18 mm Hg. Multiple conjunctival lacerations with conjunctival chemosis were detected in the inferior part of the globe of the right eye. Neither corneal involvement nor lens injury was observed. Examination of the posterior segment of the right eye was normal. Examination of the left eye was also completely normal, with a visual acuity of 20/20. The presence of scleral lacerations and subconjunctival foreign bodies could not be ruled out owing to the severity of the chemosis and subconjunctival hemorrhage. For this reason, the patient was taken to the operating room to undergo surgical exploration. During surgery, neither scleral lacerations nor foreign bodies were found. Because he seemed to be doing fine postoperatively, he was discharged and sent home with topical antibiotics and steroids. Four months later, he presented again to the ED with severe redness and pain so extreme that it prevented him from sleeping. However, he denied having trauma. Examination of the right eye revealed a visual acuity of 20/80. His corneal sensation was reduced in both eyes. Blackish subconjunctival foreign bodies were observed inferiorly, for which he was taken to the operating room. Two needle-like foreign bodies that appeared to be from an orange tree (as opposed to a palm tree, which the patient had previously claimed) were extracted. Postoperatively, he was discharged and sent home. After that, he presented again with similar findings and 3 needle-like foreign bodies were removed surgically (**Figures 1 and 2**).

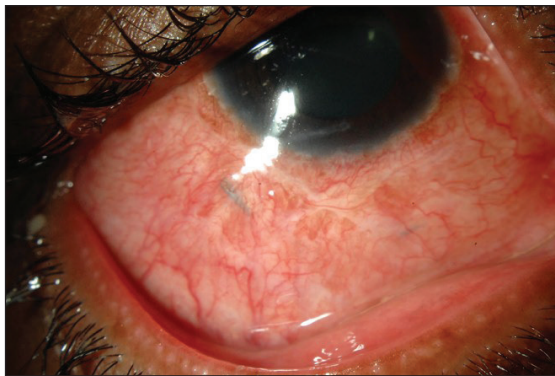


Figure 1. Two needle-like black foreign bodies observed in the inferior conjunctiva.

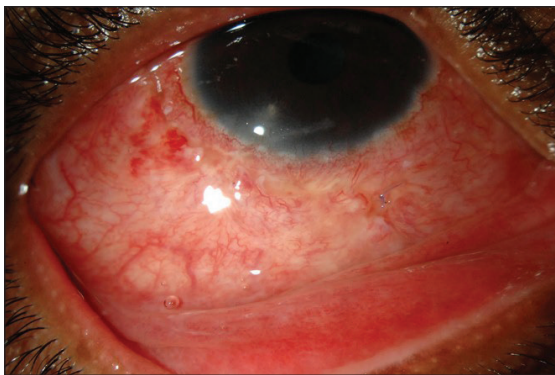


Figure 2. Post-operatively after removal of the foreign bodies



Figure 3. Track-like corneal infiltrate in the inferior cornea

Three months later, he presented to the ED with severe pain and loss of vision. His visual acuity was light perception in the right eye. Slit lamp examination revealed corneal infiltrate in a track-like pattern, hypopyon in the anterior chamber, opened anterior lens capsule, and a dim red reflex. He was diagnosed as having post-traumatic fungal endophthalmitis with

keratitis, for which vancomycin, ceftazidime, and amphotericin B were injected intravitreally. Topical fortified vancomycin, ceftazidime, and amphotericin B were also prescribed hourly. Ultrasound confirmed the presence of vitritis. Culture results for vitreous tap and corneal scraping were negative for fungal elements (**Figure 3**). At this point, the patient's symptoms resolved. One week later, the patient's visual acuity was 20/80 with cataractous lens. Two months later, he presented with an IOP of 34 mm Hg (despite being on antiglaucoma medications), a dense cataract, 360 degrees of posterior synechiae, and a shallow anterior chamber. He was evaluated by the glaucoma service, and subsequently he was taken to the operating room for pars plana vitrectomy and pars plana lensectomy, and was left aphakic. Postoperatively, his vision was light perception, and his IOP was controlled on full antiglaucoma medication including oral acetazolamide.

Afterward he was seen in the clinic several times with persistent pain and mildly injected conjunctiva. Despite having only a mildly elevated IOP (22 mm Hg), he complained of annoying pain and refused to use his antiglaucoma medications, requesting surgical intervention to treat his glaucoma. He then underwent cyclophotocoagulation for the right eye, which led to control of IOP without the use of medications. One month later, he presented with persistent pain and asked that his right eye be removed to relieve his pain.

He was subsequently admitted to hospital, and on suspicion of a self-inflicted injury, a psychiatric consultation was obtained. During the psychiatric consultation interview, he denied having a substance abuse problem or experiencing psychiatric episodes previously. When he was confronted about the possibility of his ocular injury being self-inflicted, he became angry and defensive and asked to leave the hospital against medical advice. He was subsequently lost to follow-up. The diagnosis of Munchausen syndrome was made by the psychiatrist based on DSM-5 criteria.³

CASE 2

A 34-year-old man had his left eye enucleated after several episodes of self-inflicted razor injury to the cornea, which became infected and perforated and ultimately deteriorated into a blind, painful eye. He was followed by the psychiatric services at King Khalid University Hospital at King Saud University as a case of Munchausen syndrome with a previous history of drug abuse. He first presented to the ED with a 1-week history of pain and decreased visual acuity in his left eye. Examination of his right eye was normal, with a visual acuity of 20/20. His left eye had a visual acuity of 2/200

and was mildly injected with linear perilimbal conjunctival scars and multiple linear corneal epithelial defects (**Figure 4**). The anterior chamber was quiet, with a clear lens and a normal fundus. He was admitted as a case of possible anterior scleritis (as opposed to peripheral ulcerative keratitis [PUK]), for workup and management. Workup was unremarkable for infectious or inflammatory conditions. He was started on topical moxifloxacin, lubricating drops, cyclopentolate, topical fluorometholone, and oral prednisolone. His condition started to improve, but the epithelial defects did not heal fully. However, the patient was insistent about going home against medical advice, so he was discharged while on the same treatment regimen.

When his condition worsened 1 month later, a conjunctival biopsy was performed, and it showed signs of chronic inflammation. A tissue was then sent for culture, which came back negative. He was started on topical steroids and cyclosporine A 1% eye drops. His condition started to improve, and the epithelial defects healed. He was lost to follow-up for a month, and then returned with new epithelial defects and worsening symptoms and a visual acuity of almost no light perception (**Figure 5**). He was offered admission to the hospital to receive cyclophosphamide, with the impression of Wegener's granulomatosis. However, he refused, so it was given on an outpatient basis. Two months later, he presented with a spontaneous central corneal perforation for which cyanoacrylate glue was applied. At that point, corneal sensation was tested and determined to be markedly reduced. On suspicion of herpes simplex involvement, valacyclovir was administered (**Figure 6**). He then presented several times to the ED, complaining of chronic ocular pain and exhibiting uncontrolled IOP. He asked that his left eye be removed to relieve his symptoms. Ultimately, enucleation was carried out with placement of a spherical implant for a blind, painful eye.

Around 2 months postoperatively, he presented with pain and redness in his right eye. The visual acuity was 20/20. Slit lamp examination revealed inferior corneal and limbal horizontal lacerations similar to the initial presentation of his left eye, which had eventually been enucleated (**Figure 7**). To quiet his right eye, intravenous cyclophosphamide and methylprednisolone were administered with no substantial improvement. One month later during a follow-up visit, he presented with new corneal lacerations to the right eye, and was subsequently admitted for close observation (**Figure 8**). He left the hospital on a day pass for a few hours and returned with new scratches and a dilated pupil that had not been present initially. At this

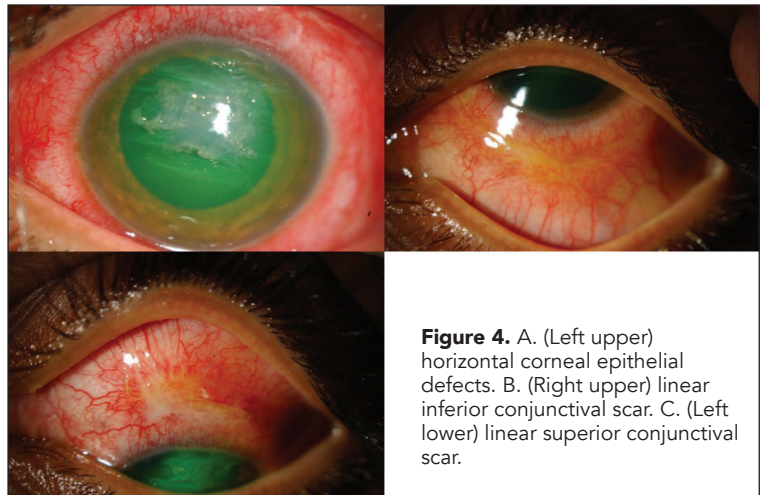


Figure 4. A. (Left upper) horizontal corneal epithelial defects. B. (Right upper) linear inferior conjunctival scar. C. (Left lower) linear superior conjunctival scar.

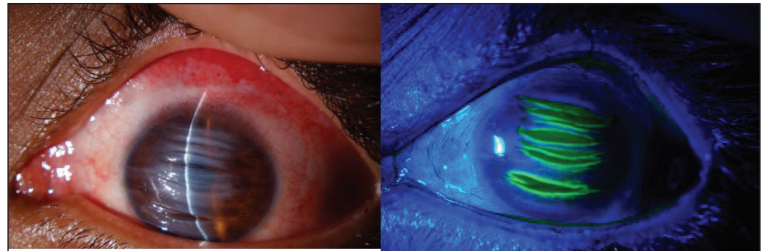


Figure 5. A. (left) new horizontal corneal epithelial defects. B. (right) epithelial defects after staining with fluorescein.



Figure 6. Scarred and vascularized cornea with central perforation

point, a self-inflicted eye injury was highly suspected. A lengthy discussion with his brother revealed that the patient was having psychiatric issues and social conflicts. During admission, the patient's condition improved quickly, and systemic immunosuppressive medications were tapered and then stopped. He was referred to psychiatric services for further evaluation and management.

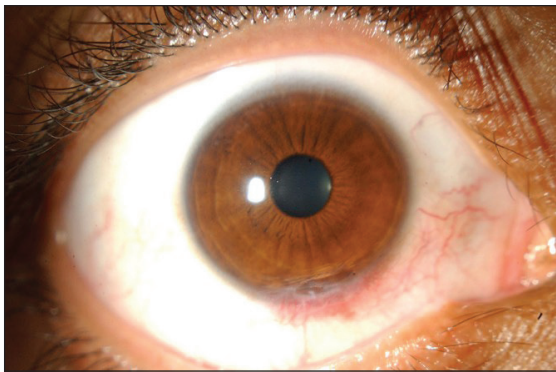


Figure 7. Horizontal inferior limbal corneal defects in the right eye.

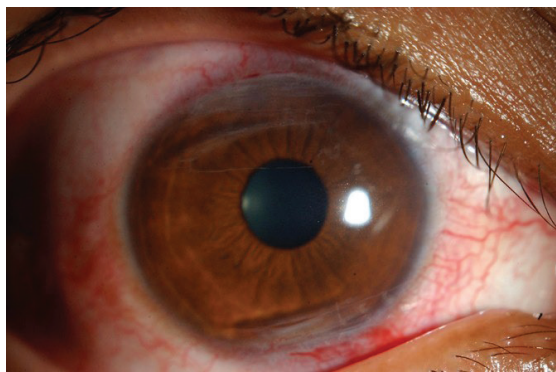


Figure 8. New horizontal superior and inferior limbal corneal defects in the right eye.

DISCUSSION

Self-inflicted ocular mutilation may present in many different clinical guises, including chronic conjunctivitis, anterior scleritis, corneal lacerations, recurrent corneal erosion, persistent epithelial defects, corneal infiltrates, scleral/corneal perforations, endophthalmitis, and even enucleation of the globe.^{2,4-8} Diagnosing self-inflicted ocular mutilation, in all its myriad guises, can be quite challenging. Self-inflicted eye injuries carried out with sharp objects, such as needles⁵⁻⁷ and razors⁸ occurred in both cases. We believe that the availability and the ease of access to sharp objects is why they are used to inflict linear injuries. The second case describes a patient who presented with horizontal corneal and conjunctival lacerations, which were initially thought to be immune related. Viral association was then suspected

when perforation occurred. Corneal scarring and vascularization followed, ultimately becoming a blind, painful eye. Upon the patient's request, the eye was enucleated to relieve his symptoms. Earlier diagnosis of his psychiatric issues, which were confirmed after resolution of his symptoms during hospitalization, may have obviated the enucleation. By contrast, the first case describes a patient who presented with different clinical guises including chronic conjunctivitis, subconjunctival foreign bodies, corneal infiltrate, and endophthalmitis, which developed into a blind, painful eye. As in the second case, the patient requested that his eye be enucleated. However, with proper psychiatric consultation and intervention, his eye was saved.

Diagnosis becomes difficult when patients deny their involvement in causing their injuries. In both cases presented here, continuous denial of trauma markedly delayed proper intervention. Ocular injuries that primarily involve the more accessible inferior and nasal aspects of the eye should signal to the ophthalmologist that these injuries may be self-inflicted.⁴ When an injury is determined to be self-inflicted, the medical condition should be redefined as a psychological stress rather than a physical disease, and the patient should be approached in a supportive manner.⁹ To maximize treatment success, it is important for psychiatric services, the general practitioner, and family members to be involved at this stage.

There were clues pointing to a previous mood disorder as well as chronic indicators of low mood when the patient described in case 1 presented to hospital. The patient's low educational status and employment in the medical field could be risk factors for such behaviors. Both patients had decreased corneal sensation, which facilitated self-injury. Therefore, we cannot rule out the possibility that these patients experienced an acute psychotic episode owing to an undetected psychiatric disorder and/or suffered from psychoactive drug abuse. Variable presentations and mechanisms of injury have been reported (**Table 1**).^{4,6-8,10-18} Although self-inflicted ocular injuries are rare, ophthalmologists should be aware of the possibility of their existence, particularly when caring for patients with psychiatric conditions or consult psychiatrist when deciding major procedure such as enucleation. Because of the difficulties associated with the diagnosis and treatment of this disorder, a team approach should be adopted so as to ensure the best possible medical care is provided.

Table 1. Summary of similar cases of self inflicted eye injury.

Author	Number of cases	Age	Sex	Laterality	Mechanism of injury	Clinical presentation	Final outcome
Yang et al 1981 ¹⁰	1	26 y	Male	Bilateral	Razor	(Bilateral) linear corneal laceration, (right) traumatic cataract, and retinal detachment	Preserved globes, VA (Right eye) 20/50, (Left eye) 20/100
Zamir et al 2001 ¹¹	2	Case 1: 40y Case 2: 34y	Case 1 : Male Case 2: Female	Case 1: Left eye Case 2: Left eye	Mechanical rubbing	Anterior scleritis and corneal abrasion	Case 1: Preserved globe, VA 20/20 Case 2: Preserved globe, VA 20/70
Mushtaq et al 2003 ¹²	1	37y	Female	Bilateral	Instillation of unknown toxic substance	Anterior scleritis	Preserved globes, VA (Right eye) 20/60, (Left eye) 20/80
Imrie et al 2003 ¹³	1	17y	Female	Bilateral	Placing tissue paper in fornix	Keratoconjunctivitis	Preserved globes, VA (Both eyes) 20/30
Sengun et al 2004 ¹⁴	1	32y	Female	Bilateral	Needles	Endophthalmitis following scleral laceration	Preserved gobes, VA (Right eye) no light perception, (Left eye) light perception
Kapoor et al 2006 ⁴	1	10y	Female	Bilateral	Instillation of mud	Keratoconjunctivitis	Preserved globes, VA (Both eyes) 20/40
Razavi et al 2009 ⁸	1	23y	Male	Bilateral	Razor	(Bilateral) scleral laceration, (Right) traumatic cataract	Preserved globes, VA (both eyes) 20/16
Orsoni et al 2011 ¹⁵	1	14y	Male	Bilateral	Mechanical rubbing	Pseudomembraneous conjunctivitis	Preserved globes, VA (Right eye) 20/32, (Left eye) 20/25
Meraj et al 2011 ¹⁶	1	50y	Male	Bilateral	Thermal injury by heat lamps	Horizontal corneal abrasion and dry eyes	Preserved globes, VA (Right eye) 20/400, (Left eye) 20/200
Lin et al 2012 ¹⁷	1	26y	Male	Bilateral	Fingernails	Corneal perforation & auto enucleation	Bilateral enucleation, VA (both eyes) No light perception
Gaur et al 2013 ⁷	1	23y	Male	Bilateral	Needles	Eyelids perforation	preserved globes
Amiri et al 2015 ⁶	1	41y	Female	Right	Needles	Endophthalmitis	preserved globe
Rao et al 2015 ¹⁸	1	42y	Female	Bilateral	Needles	Endophthalmitis following corneal perforation	Preserved globes, VA (Right eye) hand motion, (Left eye) 20/60

Legend : Visual Acuity (VA)

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