

Blindness Injury Eye Due To Landmine

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Abstract

Purpose:

Eye trauma associated other sites of body due to landmine is effected the patient's life as well as vision. Herein we report a case of severe lesion in both eyes and limbs caused by landmine with diagnosis and treatment after one year follow-up.

Methods: Case report

Diagnosis: Clinical signs and paraclinical signs

+Ultrasound AB both eyes: chorio-retinal detachment: RE> LE

+Fundusoscopic Photo LE =macular- retinal hemorrhages

+Fluorescent angiography LE= macular- retinal hemorrhages

Treatment: Extraction all the foreign bodies on cornea-conjunctiva. Drugs for anti-infection and prevention of sympathetic ophthalmia

Follow up: Vision and lesion

Result and discussion:

Male patient, 30 y.o. Chief complaint: Multi - injuries and blurred vision

History illness: Same day patient cultivated on land with shovel. When his shovel hit the hard object unfortunately a suddenly exploding appearing. He felt on land and became unconscious. The relative's patient brought him into the district hospital. The emergency room staff took care him reverted consciousness. Then he was transferred to the provincial hospital with the diagnosis: multiple injuries caused by blasting. He had soft tissue injury of the lower extremities and upper limb tendon injury left- hand side of the finger of the left hand.

RE = many foreign bodies into the cornea occupied more than 1/3 surface of the cornea- The hyphemia with 2mm level by contusion trauma. Fundus: no seeing retina because of mass hemorrhage in the vitreous body. LE= one fragment foreign body lodged into the cornea injured <1/3 of corneal surface- The anterior chamber was clear -not hyphemia. Fundus: no seeing clearly total retina because some of opaque vitreous by hemorrhage 3x3 mm size.

RE =HM 0, 5 meter, LE= CF 3 meters

IOP: RE soft, LE <10mmHg.

Diagnosis:

• Trauma belongs to the complex group 1-3. Treatment eye and body.

Eye injuries= closed globe, foreign bodies. Contusion eyes. Pronostic=severe.

Body= lesion of soft tissues and fingers limbs.

• Treatment: Group 3 included at eye and body.

Foreign bodies were extracted out of cornea in both eyes on the course of hospital admission.

On discharge hospital:

RE: follow up hyphemia for 7 days and no improvement. HM=0.5 meter.

LE: CF 3 meters.

Patient was treated uveitis with local and general steroid in the outpatient department.

Follow up 1 month-3 months-6 months -1 year.

After one year later: No sympathetic ophthalmia.

RE= atrophic ocular. IOP = soft. VA= no perception of light.

LE= CF 3 meters VA. IOP 10mmHg. Crystalline lens : opacity in nuclear- no indication for cataract extraction.

On the admission hospital:

+ Pretreatment: BCVA blindness

+ After treatment: 1 week-1 month- 3 months- 6 months -1 year. BCVA=Blindness-

No sympathetic ophthalmia.

Conclusion

Trauma due to mine- a social burden –because the majority of men aged in labor were handicapped, especially in severe eye damage and blindness.

In our complex case, we approach to diagnose, treatment and follow-up.

The result of treatment is still poor –vision in blindness.

The result of treatment depends on the situation of lesion which was caused by landmine on the primary injuries. So the prevention of landmine trauma is the firstline in order help the patients' vision as well as their life.

Key words: landmine trauma, blast injury, multi injuries, eye injuries, landmine blindness.

1. Introduction:

The threat of landmines and multi-effects are still a major challenge not achieve most of preventive medicine in this era right now. An estimated 110 million landmines remain in over 70 countries, killing and injuring 2,000 people each month.

Classification of landmine injuries: According to the International Committee of the Red Cross (ICRC) has classified 3 types of damage [1]

1. Injured on local lower limb
2. Most injuries of the lower extremities
3. Damage to the upper limb and face, eyes, breasts.

Mechanism of mine landmine injuries: Mine trauma was first designed firearms injuries that damage body organs due to pressure. Eye injuries are often hurt by debris frequently combined contusion injury caused by pressure.

Other classifications under management are:

- 1 Need surgical management
- 2 Only in the eyes management
- 3 Treatment in the eye and body

In this paper we introduce a case report and review some researches about eye trauma caused by mine landmine

2. Case Report:

Male patient, 30 years of age, address: Angiang province, Triton district in neighboring border with Cambodia.

Chief complaint for hospital admission: Multi -injuries and blurred vision

History illness:

Same day when the patient cultivated on land with shovel that shovel hit the hard object unfortunately a suddenly exploding appearing. He felt on land and became unconscious. The relative's patient brought him into the district hospital. The emergency room staff took him cared reverted consciousness. Then he was transferred to the provincial hospital with the diagnosis: multiple injuries caused by blasting.

Examination: Patients = conscious. Heart rate: 75 times /mn. Arterial tension = 120 / 70mmHg- Body temperature= 37 ° 5. Lesion included soft tissue injury of the lower extremities and upper limb tendon injury left- side of the finger of the left hand.

RE = many foreign bodies into the cornea occupied more than 1/3surface of the cornea-The hyphemia with 2mm level by contusion trauma. Fundus: no seeing retina because of mass hemorrhage in the vitreous body.

LE= one fragment foreign body lodged into the cornea injured <1/3 of corneal surface- The anterior chamber was clear -not hyphemia. Fundus: no seeing clearly all retina because some of opaque vitreous by hemorrhage 3x3 mm size

RE = hand movement 0,5 meter

LE= Counting fingers 3 meters

IOP: RE soft. LE <10mmHg.

Ultrasound AB: chorio-retinal detachment: RE> LE.

Funduscopy Photo = LE macular- retinal hemorrhages.

Fluorescent angiography =LE macular-retinal hemorrhages.

Our patient had been diagnosed:

- Trauma belongs to the complex group 1-3. Treatment eye and body.

Eye injuries= closed globe, foreign bodies. Contusion eyes. Pronostic=severe

Body= lesion of soft tissues and fingers limbs

- Treatment: Group 3 included at eye and body.

Foreign bodies were extracted out of cornea in both eyes on the course of hospital admission.

On discharge hospital:

RE: follow up hyphemia for 7 days and no improvement. HM=0.5 meter

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Patient was treated uveitis with local and general steroid in the outpatient department.

Follow up 1 month-3 months-6 months -1 year.

After one year later: No symphatic ophthalmia.

RE= atrophic ocular. IOP = soft. VA= no perception of light

LE= CF 3 meters VA. IOP 10mmHg. Crystalline lens : opacity in nuclear- no indication for cataract extraction.

3. Discussion

There are two main types of mine:

1. Mine attack personally
2. The anti-vehicle landmines.

It is reported the price 3-5USD for production per mine but 300-1000USD cost for removing a mine. Mine personally have the most devastating damage to individuals and damage to family and society. "Mine is a perfect soldier, brave, never sleeping, never forget the task".

Incidence: Frequency of eye injuries in war is estimated 20-50 times higher in ocular surface and Duke Elder estimated 2.5% of the battle. This only happens with rudimentary weapons in history: 0.57% in the US Civil War, World War II 2% to 8% in the Korean War, 6-10% in the Arab-Israeli war, the Vietnam War and 9% [2][3]

Frequency of severe eye damage leading to blindness in some countries is very high - mine warfare unidentified higher than those in peacetime [4]

In a study in Battambang province in neighboring Cambodia have been sent to 38 patients to the Ophthalmology Hospital from January 1/1994 to 9/1994. Patients were assessed with Snellen acuity, bio microscopic examination and indirect ophthalmoscopy. The result is 97% male, mean age 28 years, 90% civilians. 2 hurt inside 91% of which 91% mine, B40 9%. 15 eyes hurt one eye: 7 and 8 mine-by-pieces in which 5 cases have gouged eye removal. Results of the final visual acuity are less than 3/60 of 75%; only 18% with VA > 6/12. [5]

Some researches on eye injuries from landmines showed: Results of the study were conducted by combining Military Hospital Medical Pano Aqil Military Hospital. Time was from 1/2007 to 4 / 2008- according to clinical classification of "Birmingham Eye Trauma Terminology" (BETT). The results showed that the 41% damage 2, mean age 28.27 ± 7.33 , on average treatment 22.86 ± 16.01 ; 59% male, 72% had closed injury or no injury subsections, frequent injuries 27% damage eyesight, eyesight damage by 29% corneal and cataract 19%.

Eye injuries caused by landmines continue to cause injury to civilians and soldiers not only in wartime but also in peacetime no difference between children and soldiers. A study of 84 patients 19-56 years old injury from landmines in Afghanistan from April 11/1992 to 1/1996 conducted by Muzzaffar et al 2000 study showed that 51 / 84 patients (60.7%), eye damage with many different levels. 91 eyes of 51 patients (89.2%) lesions. 40 both eyes lesions (78.4%). A total of 34 eyes (37.3%) were blindness. Total blindness caused by landmines is very high. Another study, Muzaffar W et al 1997 on 84 eyes showed that the average age of 19; both eye damage 78%; totally blind 37% [6].

Injury civilians occurred shortly after the war ended. Typically, there were 236 amputated cases of 36,000 feet trauma in Cambodia [7].

This our case is a severe damage in both eyes as well as associated with limb lesion. Our complex case included opened and close wounds of sclera –cornea with foreign body - vitreous hemorrhage, prolapse. These lesions caused blindness after one year follow-up.

Trauma due to mine- a social burden –because the majority of men aged in labor were handicapped, especially in severe eye damage and blindness. Women are less due to working conditions. Likewise for children- children may also suffer from these damages and can be fatal before or on the way to hospital [8] [9].

4. Conclusion:

Trauma due to mine- a social burden –because the majority of men aged in labor were handicapped, especially in severe eye damage and blindness. In our severe case, a closed globe injury, we approach to diagnose, treatment and follow-up. The result of treatment is still poor –vision in blindness. The result of treatment depends on the situation of lesion which was caused by landmine on the primary injuries. So the prevention of landmine trauma is the firstline in order help the patients' vision as well as their life.

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Author Profile



Duong Dieu received the MD (1978) and PhD (2003). He was chief of Ophthalmology Department for over 30 years with clinician/surgeon. From 2010 to now he is senior lecturer of Faculty of Medicine of Nguyen Tat Thanh University in HCM city- Vietnam

Table 1-Eye injury due to mine: distribution by type

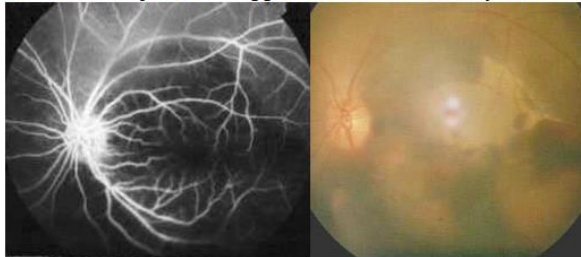
Type trauma	%
<i>Closed ocular trauma</i>	
Foreign body on ocular surface	62
Tearing delamination	17
Contusion	23
<i>Open ocular trauma</i>	
Penetrated wound	27
Foreign body.	15
Other damages	40

Table 2- Eye injury due to mine: distribution by position

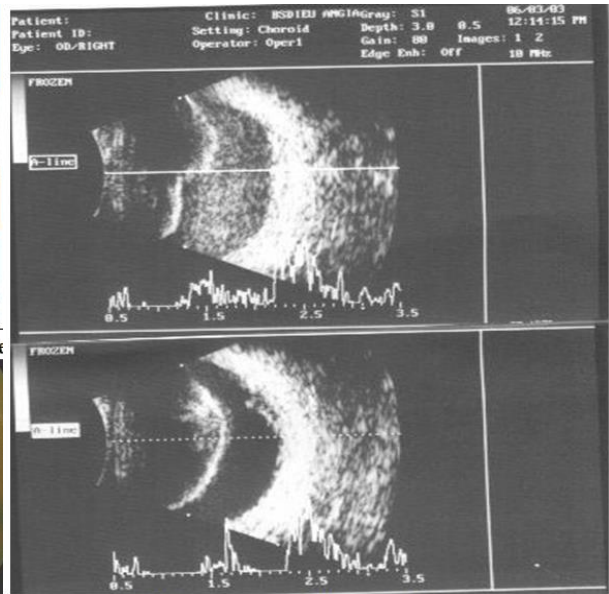
Damages by position	%
Conjunctiva: Tear	17
Conjunctiva: hemorrhage	19
Cornea: edema	35
Cornea: perforated	19
Anterior chamber: hemorrhage	29
Iris ; prolapse	38
Pupil: constricted	15
Sclera: Tear	10
Vitreous body: hemorrhage, prolapse	29
Retina: detachment	10



F1. RE>LE injuries and upper/lower limb caused by landmine



F2. Retinography and angioretinography : hemorrhage



F3 Ultrasonography: RE(upper)+LE (lower)
Detachment of choroid and retina+Hemorrhage of vitreous body|retina