

## **A REVIEW ON NAYANABHIGHATA (OCULAR INJURIES)**

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DOI: <https://doi.org/10.47071/pijar.2020.v05i05.012>

### **ABSTRACT**

'SarvendriyanamNayanamPradhanam' among all the Indriyas, Netra is considered as important. According to Acharya Vagbhatta, all efforts should be made to protect eyes throughout the life. For a blind man, the day and night are the same<sup>1</sup>. Acharya Sushruta has considered more with regards to Nayanabhighata and there is reference of replacement of injured eye with artificial eye by Ashwini Kumara in Rigveda which signifies the evidence of Nayanabhighata in Samhita and Vedic period. Vision loss due to injuries is a serious health problem worldwide. In the era of high speed traffic and rapid industrialisation, the incidence of trauma is increasing very fast and becoming life threatening<sup>2</sup>. In spite of having many advancements in medical fields for the preservation and restoration of vision, ocular injuries remain a major cause of visual loss. WHO has reported 55 million eye injuries, of which 1.6 million go blind every day which range from a small foreign body on the cornea to a ruptured globe presenting with 6/6 vision to no perception of light<sup>3</sup>. The treatment modalities for Nayanabhighata by our Acharyas include Sashalyanetrachikitsa and Kriyakalpas.

**KEY WORDS:** Nayanabhighata, Ocular Injuries, Kriyakalpas

### **INTRODUCTION**

Nayanais derived from 'NeeyateDrishtiVishayoAnenaIti' which means the object of visual perception and Abhighata refers to any type of physical assault or trauma. So any type of trauma to the eyes is called as Nayanabhighata<sup>4</sup>.

Ocular structures are always vulnerable to injuries. The worst

outcome of injuries is visual morbidity and impairment. The protective mechanism which protects the eyes involves Blink reflex also called as corneal reflex which is an involuntary movement of the eyelids elicited by the stimulation of cornea and Secretion of tears which helps the eyelids to spread the tear film over the

surface of the eyes. Tears helps to keep the surface of the eyes moist and thereby protects the transparent cornea from dryness, injury or infection. Landen et al reported an annual incidence of 3.5/100,000 inhabitants of perforated eye injuries in the United States<sup>5</sup>. About 2.4 and 7.9 per 1000 nonindigenous and indigenous adults, respectively had monocular vision loss from eye injuries in Australia<sup>6</sup>. Around 3 quarter million patients are annually hospitalized with eye injury world-wide<sup>7</sup>. In India, there are more than 50 million blind people and this number increases by 3.8 million per year. Amongst the total number of blind cases, 1.2 percent is contributed by injuries which are preventable<sup>8</sup>.

### **NAYANABHIGHATA**

#### **Nidana:**

Acharya Dalhana has classified the causes of Nayanabhigata into Murtha Abhighata and Amurtha Abhighata. According to Acharya Videha the Nidanas<sup>9</sup>are;

- Applying TikshnaAnjanas when already the eyes are tired.
- Exposure to Vata, Atapa, RajoDhuma.
- Keeta, Makshika, MashakaSparshana
- JalaKreedha

- RatriJagarana
- AtiLanghana
- Seeing illuminated objects like Divakara, Agni, Chandra, Graha and Nakshatra.

The above said Nidanascauses vitiation of Vataalong with the vitiation of Pitta and Raktawhich afflicts the SthanikaDhatus at the site of Khavaigunya.

#### **Lakshanas:**

According to Sushruta, 'Abhyahatetunayanebhahudhaanaraan aamsamrambha raga tumulaasurujasudheemaan'.

Abhyahatanayanaindicates injured eye. The lakshanas are;<sup>10</sup>

- Samrambha: profound swelling
- Raga: redness of the eye
- Tumularuja: acute pain which is intolerable

According to Dalhana the Lakshanas are Raga, Daha, Toda, Shopha, Paka, Gharshana and Vedana.

AkshiShalyaLakhsanasare<sup>11</sup>Netra

Srava, LohitaRaji in the Netra and difficulty in Nimeshonmeshana

#### **Chikitsa<sup>12</sup>:**

- According to Acharya Sushruta,Nasya, Asyalepa or MukhaLepa,Parisechana, Tarpana, Pittaja and KshatajaShoolaPathya,

DrshutiprasadanaVidhi,  
SnigdhaSheetaMadhuraDravyaPrayoga  
.BhashpaSwedana in case of minor  
trauma.

- NetraAbhighataharaGhrita for  
SarvaNetrabhighata which contains Aja  
Ghrita, Go Ghrita, Madhuka, Utpala,  
Jivaka and Rhishabaka.
- VastroshmaSwedana, Aschyotana with  
Stanya, Tarpana  
withSnighdaSheetaDravyas,  
TriphalaPrayoga(if the sight is  
disturbed due to bright illuminated  
objects like Surya, Anala, Vidhyuta ).  
Aschyotana with Churnas of Haridra,  
Musta, Triphala, Sita, Daruharidra, and  
Yashtimadhu mixed with Stanya.
- In AtipravishtaNetra (pushed eye ball),  
the dislocation should be made bulge  
out to its proper by doing  
Pranoparodha (holding the breath),  
inducing Vamana, Kshavathuand  
Kantarodha(pressure over the throat).  
In AtiNirgataNetra (protruding eye  
ball), protrusion can be managed by  
Duchilanghana (taking deep  
inspiration) and ShiroParishekawith  
cold water.
- In case of AkshiShalya,the removal is  
done with Kshouma, Baala, Jala,

Vastra, Jihwa. The minute foreign  
bodies should be removed by everting  
the lids and washing with luke warm  
water and clear it by pouring  
YashimadhuKwathamixed with Ghrita  
and Madhu. Parisheka with equal  
quantity of Lodhra and Yashtimadhu  
mixed with Ajaksheera.

### **Sadhyaasadyatha<sup>13</sup>:**

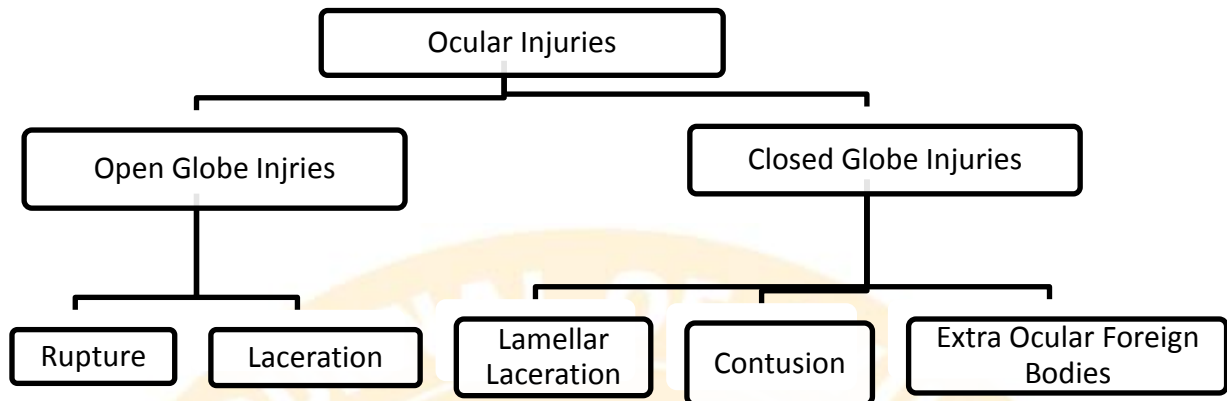
If Abhighata to PrathamaPatala, it is  
Sadhya,if DwiteeyaPatala is also  
involved, then it is Krichrasadhyaand if  
all the three Patalas are involved, then  
Varjya for Chikitsa. In case of  
VisteernaDrishti, Tanu Raga, Avila  
Darshana, it is Sadhya.

### **MODERN VIEW**

#### **Ocular Injuries<sup>14</sup>**

Ocular injury refers to damage or  
trauma inflicted to the eyes by  
external means. Includes both surface  
injuries and intraocular injuries. The  
injury may be due to mechanical  
trauma (blunt or penetrating),  
chemical agents, or radiation  
(ultraviolet or ionizing). The most  
obvious presentation of ocular injuries  
is redness and pain in the affected  
eyes.

**Classification:** Birmingham Eye Trauma Terminology (BETT)



**OPEN GLOBE INJURIES:**

An open globe injury is defined as a full thickness wound of the eye wall with vision threatening condition often leading to blindness.

**Table No. 1: Difference between open globe injuries and closed globe injuries**

Sl. No.		Open globe rupture	Closed globe rupture
1.	Cause	Blunt objects	Sharp objects
2.	Mechanism	Inside out injury mechanism	Outside in injury mechanism
3.	Types	Occurs as Direct rupture and Indirect rupture	Penetrating injury Perforating injury Intra ocular foreign body
4.	symptoms	Sever eye pain Diplopia or blurred vision Reduced visual acuity Presence of afferent pupillary defect	Loss of vision Fluid leakage from the eyes Loss of red reflex Presence of afferent pupillary defect
5.	Diagnosis	CT scan B scan ultrasonography	Slit lamp examinatuon Fundoscopic examination
6.	Treatment	Seidal testing is carried out If IOFB, topical and systemic antibiotics Primary enucleation	Depends upon the types of lacerations

Open globe laceration includes penetrating injury, Perforating injury and Intra ocular foreign body.

**Table No.2 Types of open globe lacerations.**

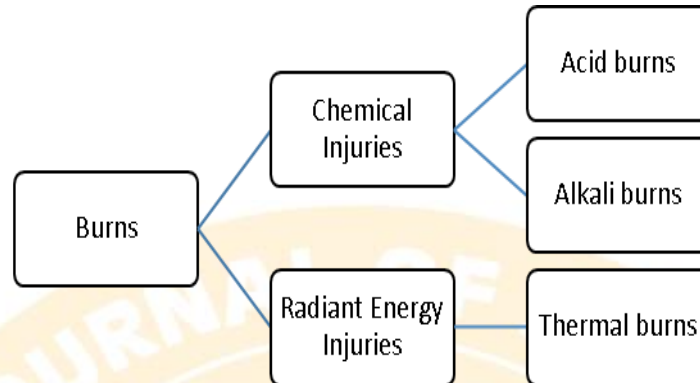
Sl.no.		Penetrating Injury	Perforating Injury	Intra Ocular Foreign Body
1.	Symptoms	Sever loss of vision Distorted appearance of the globe Ocular content extruding out of the globe Loss of red reflex	Diffuse chemosis Low IOP Haemorrhagic choroidal detachment Vitreous haemorrhage.	Similar to those of corneal abrasions and foreign body Loss of vision. Fluid may leak from the eye pain and vomiting Visual loss, Siderosis and chalcosis
2.	Diagnosis	Visual acuity Pupillary examination Measuring IOP	same as penetrating injury	Slit lamp examination Retro illumination of iris Gonioscopy
3.	Treatment	Vitrectomy or Pars Plana Vitrectomy	Same as penetrating injury	Removal of foreign body. Parsplanavitrectomy.

**CLOSED GLOBE INJURIES:** is the one in which eye wall (sclera and cornea) does not have a full thickness wound but there is intraocular damage. It includes contusion, lamellar laceration extra ocular foreign bodies.

**Table No.3 Types of closed globe injuries**

Closed globe injury	cause	Affected part	symptoms	Diagnosis	Treatment
Lamellar laceration and contusion	Blunt injury	Anterior and Posterior segment	Eye pain and vision deficit, Periorbital swelling, Subconjunctival haemorrhages	CT scan, Slit lamp examination	Anti-emetics, Analgesics, Lateral canthotomy Prophylactic antibiotics
Extra ocular foreign body	Foreign body	Conjunctiva Cornea	Immediate discomfort, Profuse watering, photophobia , blepharospasm and conjunctival congestion	Slit lamp examination	Conjunctival foreign body – with swab stick or hypodermic needles Corneal foreign body – removed with hypodermic needle with anaesthesia

**BURNS:**



Chemical injuries: **Table No. 4: Types of chemical eye injuries**

<b>Alkali burn</b>	<b>Acid burn</b>
<p>More sever Penetrate rapidly They combine with cell membrane lipids, mucopolysacchrides and to collagen resulting in disruption of cells and necrosis of the tissues. They saponify cell membranes and intercellular bridges, which facilitates rapid penetration into the deeper layers and into the aqueous and vitreous compartments. They causes necrosis of conjunctival blood vessels. "cooked fish eye" the cornea appears chalky white and opaque</p>	<p>Less sever Acids quickly denature protiens in the corneal stroma, forming precipitates that retard additional penetration. Causes localized damage due to its; Collagen effect Protien precipitations at epithelium level which forms a physical barrier.</p>

Treatment of burns

1. Prevent further damage by following measures:
  - Immediate and thorough irrigation with the available clean water or saline delivered through an IV tubing. Deliver minimum of 2 L of water in 20–30 minutes or until pH is restored.
  - Mechanical removal of contaminant and removal of contaminated and necrotic tissue

2. Maintenance of favourable conditions for rapid and uncomplicated healing by following measures: Topical antibiotic drops, Steroid eye drops, Cycloplegics, Ascorbic acid, in the form of 10% sodium ascorbate eye drops, Lubricant eye drops (preservative free) should be used in abundance to promote the healing.

3. Prevention of symblepharon can be done by using a glass shell or

sweeping a glass rod in the fornices twice daily.

### **DISCUSSION:**

Even though the eyes are well protected by different protective mechanisms and protective structures, the ocular structures are more vulnerable to injuries. Ocular injuries always requires immediate management. The incidence and prevalence of ocular injuries are increasing at an alarming rate. There are various types of treatment modalities explained by our Acharyas. Nasya is advised as a treatment as it does the Shiroshodhana. The drugs applied as Lepana does the Vranaropana. For the purpose of Amapachana, Sekais administered in the early stages. Tarpana is indicated to achieve Drishtiprasadana. As Rakta and Pitta are the most vitiated Doshas in Abhighata, Raktamokshana is indicated. To reduce the vitiated Rakta and Pitta Doshas, Dravyas having the properties of Snigdha, SheetaGuna and Madhura Rasa are used. Thus, the drugs used for the treatment of Nayanabhighata have anti-inflammatory, anti-bacterial, wound healing, anti-oxidant properties which helps in early wound healing.

### **CONCLUSION:**

The eye remains a high risk organ for ocular injuries resulting in visual impairment or blindness. Eye can be adversely affected in the course of sports, in occupational settings, at home or in the battle field. The two main pillars for the prevention of ocular injuries are awareness and use of protective eyewear when injuries are possible. The Chikitsa adopted is based on the Avastha of the Abhighata and based on the predominance of Doshas. The different treatment modalities explained by our Acharyas includes Nasya, Alepa, Tarpana, Drishtiprasadajanana Dravyas, application of Snigdha, Sheeta and Madhura Dravyas. Prevention is always better than cure, so appropriate preventive measures should be used at potentially hazardous places. Early investigations and management are key features to prevent permanent vision loss.

### **REFERENCES**

1. Acharya Vagbhatta, Ashtanga Hridaya, Translated by Prof. K. R. Srikanta Murty, Chowkamba Krishnadas Academy, Varanasi, Volume 3, Uttara Stana,

- Chapter 13-Timira Pratishedha, Sloka Number 98, Page Number 130.
2. A K Khurana, Comprehensive Ophthalmology, 6<sup>TH</sup> Edition, The Health Science Publishers Newdelhi, Jaypee Brothers Medical Publishers (P) Ltd, Chapter 18, Ocular Injuries, Page Number 426.
  3. Sundaran Natarajan, Editor, Indian Journal of Ophthalmology, Chairman, Managing director, Aditya Jyot eye hospital Pvt.Ltd.Wadala (W), Mumbai, Maharashtra, India.D01: 10.4103/0301-4738. 121063 Ocular trauma, an evolving sub speciality.
  4. Dr.Udaya Shankar, M.D. (Ayu) – Text book of ShalakyTantra illustrated Volume.1: NetraRoga;Chaukhambha Visvabharati Oriental Publishers & Distributors, Varanasi-221001 (India); Chapter No. 122, Page No. 657.
  5. Landen D, Baver D, La Porte R, ET. Al. Perforating eye injury in Allenheny country, Pennsylvania, Am J Public Health 1990; 80:1120-2.
  6. Keel S, Xie J, Foreman J, et al. The prevalence of vision loss due to ocular trauma in the Austrailian National Eye Health Survey Injury 2017; 48:2466-9.
  7. NegrelAD, Thylefors B. The global Impact of eye injuries, Ophthalmic Epidemiol 1998; 5:143-69).
  8. Park k.17<sup>th</sup> Jabalpur: BararsidasBhanot publishers; 2002. Park's textbook of prevention and social medicine; page no. 295-300).
  9. Dr.Udaya Shankar, M.D. (Ayu) – Text book of ShalakyTantra illustrated Volume.1: NetraRoga;Chaukhambha Visvabharati Oriental Publishers & Distributors, Varanasi-221001 (India); Chapter No. 122, Page No. 658.
  10. Dr.Udaya Shankar, M.D. (Ayu) – Text book of ShalakyTantra illustrated Volume.1: NetraRoga;Chaukhambha Visvabharati Oriental Publishers & Distributors, Varanasi-221001 (India); Chapter No. 122, Page No. 657.
  11. Dr.Udaya Shankar, M.D. (Ayu) – Text book of ShalakyTantra illustrated Volume.1: NetraRoga; Chaukhambha Visvabharati Oriental Publishers & Distributors, Varanasi-



221001 (India); Chapter No. 122,  
Page No. 657.

12. Dr. Udaya Shankar, M.D. (Ayu) –  
Text book of Shalakyatantra  
illustrated

Volume.1: NetraRoga; Chaukhambha  
Visvabharati Oriental Publishers &  
Distributors, Varanasi-221001  
(India); Chapter No. 122, Page No.  
660.

13. Dr. Udaya Shankar, M.D. (Ayu) –  
Text book of Shalakyatantra  
illustrated

Volume.1: NetraRoga; Chaukhambha  
Visvabharati Oriental Publishers &  
Distributors, Varanasi-221001  
(India); Chapter No. 122, Page No.  
661.

14. A K Khurana, Comprehensive  
Ophthalmology, 6<sup>TH</sup> Edition, The  
Health Science Publishers  
New Delhi, Jaypee Brothers Medical  
Publishers (P) Ltd, Chapter 18,  
Ocular Injuries, Page Number 426.

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**Source of Support: NIL**

**Conflict of Interest: None declared**

**Published BY:**

**Shri Prasanna Vitthala Education and  
Charitable Trust (Reg)**