RESEARCH PAPER | Medical Science | Volume : 4 | Issue : 6 | June 2014 | ISSN - 2249-555X

Bilateral Acute Angle Closure Glaucoma and Acute Anterior Uveitis Following Snake Bite

KEYWORDS: Snake bite, bilateral acute angle closure

Dr. Sohel Irfan Mohd. Khan | Dr. Shweta P.Parakh

ABSTRACT *Ophthalmic manifestations following snake bite are a rare entity. This report describes a case of bilateral acute angle closure glaucoma – an ophthalmic emergency - and acute anterior uveitis following snake bite. Timely diagnosis and treatment led to recovery .*

A 50 year old male farmer was admitted to the medicine ward with a history of unknown snake bite to his left foot with rapidly developing cellulitis, upto the left knee. There was no history of loss of consciousness, respiratory distress, ptosis, diplopia, dysphagia, hematemesis or hematuria. There was no history of previous medical or surgical or ocular illness.

Patient was administered antisnake venom, IV antibiotics and IV furosemide.

Investigations revealed -
Progressive rise in leucocytosis to maximum count of 28,000/cu.mm (Predominantly neutrophils)

Progressive fall in platelet count to lowest count of 17,000/cu.mm.

Progressive rise in serum creatinine (Maximum 3.2mg%) and blood urea level (122 mg%)

Prolonged Prothrombin time (Test – 14.5 sec, Control- 13.8 sec)

Bleeding time (4mins 55 sec) and clotting time (8 min 45 sec) prolonged

Oliguria

All of the above pointed to a diagnosis of vasculotoxic snake bite with acute renal failure.

48 hours post admission ,the patient complained of rapid diminution of vision in both eyes with severe pain and photophobia.

Visual acuity was HM in both eyes. There was intense blepharospasm with bilateral nasal and temporal subconjunctival hemorrhage , chemosis and corneal epithelial defect (involving about central 2/3rd of cornea) with stromal edema. AC was shallow bilaterally with fixed, semidilated pupils . Rest details of anterior and posterior segment could not be seen. Ocular movements were free and full. Non-contact tonometry showed IOP as 38 mm Hg OU. A diagnosis of bilateral epithelial defect , corneal edema with acute angle closure glaucoma was made.

Topical 0.5% timolol bd was administered along with Chloromycetin eye ointment tid and 1 % Carboxymethylcellulose eye gel ten times a day . Intravenous mannitol and oral acetazolamide were contraindicated as acute renal failure had supervened.

By day 4 of admission, corneal epithelial defects had healed and stromal edema reduced with reduced symptoms, thus allowing further detailed evaluation. Moderate flare was present with fixed, semi- dilated pupils and immature senile cupuliform cataract bilaterally . IOP was OD 26 and OS 24. Indirect gonioscopy revealed OU Schaeffer's Grade 1 angle closure . Fundi were normal.

Topical 1% prednisolone acetate qid was started in addition to timolol 0.5% bd.

By day 12, visual acuity was 6/60 OU . IOP had returned to normal and AC was now of normal depth. However , the patient now developed acute anterior uveitis with fibrin in pupillary area, posterior synechiae, moderate flare and Grade 2 cells bilaterally.

Steroid frequency was increased to 8 times a day . Atropine 1% tds was added too.

By Day 15, the uveitis had resolved and final visual acuity was 6/24 OU.

DISCUSSION

Systemic manifestations of snake bite are dependent on the toxins present in the venom. Venomous snakes basically belong to 3 families – Viperidae , Elapidae and Hydrophidae.

Elapids have neurotoxic venom . Ptosis and ophthalmoplegia may be the only ophthalmic manifestations following elapid snake bite[1].

Viperidae includes Crotalidae (pit vipers and rattle snakes) and Viperinae (Russell viper). Their vasculotoxic venom causes intense local reaction, hematuria, hemoptysis, acute renal failure and Disseminated Intravascular Coagulation (DIC).

Hydrophidae include sea snakes which have musculotoxic venom.

Ophthalmic manifestations of snake bite include Venom ophthalmia- an acute and severe form of conjunctivitis and anterior uveitis following ocular exposure to the venom of certain types of cobra (N.nigricollis)[1] . Ghost cell glaucoma after snake bite has also been reported[2] . Amongst vision threatening complications, bilateral optic neuritis has been reported by Sanghavi NG et al[3] .

Bilateral simultaneous acute angle closure though an ophthalmic emergency , is a lesser known entity after snake bite[4]. The patient developed acute rise in intraocular pressure on the third day following the bite. Likely causes include envenomation , allergy to ASV and capil-

Volume : 4 | Issue : 6 | June 2014 | ISSN - 2249-555X

lary damage . Ciliary body edema with its cyclorotation may have led to forward movement of the iris - lens diaphragm and shallowing of the anterior chamber with resultant pupillary block .

Acute anterior uveitis following snake bite has been reported earlier[5] . Bilateral acute anterior uveitis that occurred 10 days after bilateral angle closure was possibly an immunological response to ASV antisera which is derived from horse serum[6] . Administration of topical steroids and atropine helped in rapid resolution of the uveitis.

This emphasizes the need for ocular examination in the evaluation of a patient with snake bite especially when the patient is so debilitated that he might not be able to complain of ocular symptoms. Occurence of sight-threatening complications following snake bite that are reversible with timely intervention should be borne in mind by the attending physician. Further reports with similar findings are needed to suggest that acute angle closure glaucoma is a distinct ocular complication akin to optic neuritis following snake bite .

Fig.1 a

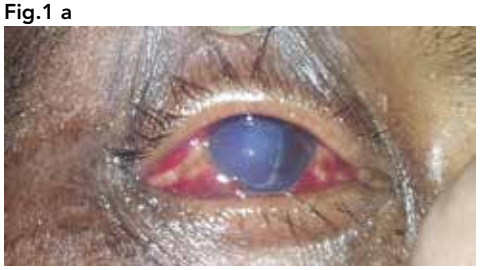

Fig.1b

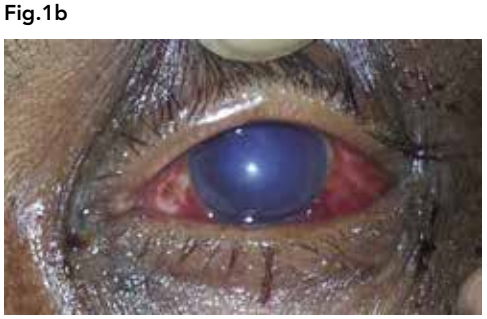

Fig. 1 a and Fig. 1 b show subconjunctival hemorrhage , chemosis ,corneal epithelial defect >2/3rd of central cornea with stromal edema and fixed, semidilated pupils in right eye and left eye respectively.

Fig.2a

Fig.2b

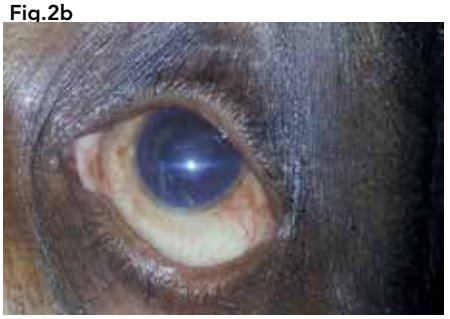

Fig.2a and 2b. By day 4, the epithelial defects had healed with resolution of stromal edema bilaterally. Pupils remained fixed and semidilated bilaterally.

Fig.3a

Fig.3b

Fig.3a and 3b. Bilateral acute anterior uveitis with circumcorneal congestion, fibrinous papillary exudate and posterior synechiae on day 12.

REFERENCE

1.Strickland ,G.T. (2000). Part VII Poisonous and toxic plants and animals. Hunters (8th edition) Tropical medicine and emergency infectious diseases, p 896-907, WB Saunders, Philadelphia. | 2. Rojas, L., Ortiz ,G., Gutierrez, M., & Corredor, S. (2001) . Ghost cell glaucoma related to snake poisoning. Arch Ophthalmol, 119, 1212-1213. | 3. Sanghavi, N.G., Amin ,S.K.,& Naik, R.S. (1982) Bilateral optic neuritis following snake bite. J Assoc Physicians India,30,117-118. | 4. Srinivasan, R., Kaliaperumal, S.,& Dutta, T.K. (2005) . Bilateral angle closure glaucoma following snake bite. J Assoc Physicians India, 53, 46–48. | 5. Duke Elder. (1977) Chapter III, Inflammations of the uveal tract. Duke Elder System of ophthalmology. Vol IX Diseases of the uveal tract. p 60-64 , St.Louis The Mosby Company. | 6. Buttes,G.P., Ayan, N., & Cami, G. (1996) . Uveitis after snakebite. Arch Pediatr,3,832-833. | |