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Clinical Profile of Poisonous Snake Bite

Medical Science

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ABSTRACT

Snake bite is a common medical emergency faced mainly by rural populations in tropical and subtropical countries with heavy rainfall and humid climate. The present descriptive observational study was carried out to study the clinical features of snake bite cases.

In the present study, we studied 260 cases of snake bite admitted in the teaching hospital over a period of 18 months and 110 pts showed the signs of enevomation. Detail information regarding clinical parameters was taken from the study subjects.

Analysis of the data showed that majority of the snake bite victims having maen age of 35.77 yrs and males are 78(70.90%) and females are32(29.09%). Rural pts were 93(84.54%) and urban pts were 17(15.45%). Most common presenting symptoms at the site of bite was cellulitis present in 97(88.18%) pts. Other common presentations were bleeding manifestation in 60%, nausea /vomitting in 52.72%, oliguria in 34.54%. 23.63% cases reached the health care unit within 12 hour of bite and 41.81% within 12 to 24 hours after bite.

INTRODUCTION

Snake bite is a common cause of morbidity and mortality worldwide, especially in tropical countries. Globally, more than 2.5million venomous snake bite annually with 1,25000 deaths(1).It is estimated that between 35000-50000 people die of snake bite in India each year (2).India harbors more than 250 species and subspecies of snakes, of which about 50 are venomous. Only five venomous species of land snakes are pose a significant threat to public health in India. They are neurotoxic Elapidae, including Common Cobra (*Naja Naja*), King Cobra (*Ophiophagus Hannah*) and Krait (*Bungarus Coerulus, Bungarus fasciatus*); and vasculotoxic Viperidae, Russell's viper (*Daboia russelii*) and saw-scaled viper (*Echis carinatus*). Delayed presentation to hospitals frequently contributes to increased morbidity and mortality from snakebites. The delay is due to people using folk and indigenous remedies before reaching the hospital especially in rural areas. The incidence of envenomation is particularly high in tropical regions where snakes are abundant and human activities like field work and sleeping outdoors increase the risk of man-snake encounters This study was undertaken to evaluate the clinical profile of snake bite patients presenting to our institute .

AIMS AND OBJECTIVES

1)To study the clinical profile of poisonous snake bite.

MATERIALS AND METHOD

We studied case records of 260 patients of snake bite who have been admitted in our institute from june 2014 to dec 2015.This is a prospective observational study.

Inclusion Criteria:

1. Definitive history of snake bite,
2. Clinical picture consistent with snake bite, as presence of fang marks or cellulitis or coagulopathy or neuroparalysis .

Exclusion Criteria:

1. Patients not giving definative history of snake bite.
2. Non poisonous snake bite.

History taking, Examinations and investigations as per proforma

All patients received ASV, antibiotics ,supportive treatment depending upon availability of resources.

RESULTS

- During the study period of 18 months, a total of 260 patients were admitted for snake bite
- 110(42.30%) showed signs of envenomation
- Out of 110 only 26 pts report to hospital within 12 hrs and46 pts report in 12 to24 hrs.
- Most common clinical symptom was cellulitis present in 97(88.18%) followed by bleeding manifestation present in 66 pts(60%).
- Most comon clinical sign was regional lymphadenopathy 97(88.18%) followed by tachycardia.
- M C lab inv was presence of RBCs in urine/Haemoglobinuria present in 67pts(60.90%).
- These 110 patients were studied in further details.
- Of the 110patients ,78 (70.90%) were males and 32(29-09%) were females.
- Mean age - 35.77 (±14.92) years.
- Rural patients were 93 (84.54%) and Urban patients were 17 (15.45%).

Time Lag between snake bite & Hospitalisation

Sr.No.	Time lag between snake bite & Hospitalisation (hours)	No. of patients (n=110)
1	0 – 12 hrs	26 (23.63%)
2	12 – 24 hrs	46 (41.81%)
3	24 – 48 hrs	27 (24.54%)
4	>48 hrs	11 (10%)

Clinical symtoms

Sr.No.	Symtoms	No.of patients (n=110)
1	Cellulitis/pain	97(88.18%)
2	Oliguria/Anuria	38(34.54%)
3	Altered sensorium	18 (16.36%)
4	Bleeding manifestation	66(60%)
5	Breathlessness	32(29.09%)
6	Nausea/vommiting	58(52.72%)
7	Ptosis/neuroparalysis	17(15.45%)
8	Fever	38(34.54%)

CLINICAL SIGNS

Clinical signs	No. of Patients
Fever	38 (34.54%)
Regional lymphadenopathy	97(88.18%)

Tachycardia	87 (79.09%)
Respiratory distress	49 (44.54%)
Hypotension	22 (20%)
Edema feet/facial odema	45 (40.90%)
Flapping Tremors	12(10.90%)
Bleeding manifestations(gum bleeding, hematuria,malena,petechia,echymosis etc.)	42 (38.18%)
Pericardial Rub	6 (5.4%)
Crepitations	34 (30.90%)
Altered sensorium	18(16.36%)
Extensor planters	18 (16.36%)

Laboratory Investigations

Sr.No.	Investigation	No.of patients (n=110)
1	Deranged KFT	38(34.54%)
2	Anaemia (Hb <9gm%)	46 (41.81%)
3	Leucocytosis	35(31.81%)
4	Thrombocytopenia	42(38.18%)
5	Coagulopathy (INR>1.5)	66 (60%)
6	Metabolic acidosis	49 (44.54%)
7	Hyperkalemia	19(17.27%)
8	Deranged LFT	28(25.45%)
9	RBC in urine/Haemoglobinuria	67(60.90%)

Discussion

Snakebites have the highest incidence in Asia and represent an important health problem. Clinical manifestations include proteinuria, hematuria, pigmenturia,cellulitis,altered sensorium ,neuroparalysis .AKI usually is caused by bites by snakes with hemotoxic or myotoxic venoms [3]. Neuroparalysis is seen after the bite of Elapidae like cobra. In the present study incidence of snake bite was found to be in the age group of 10 to 39 years which is active age group involved in various outdoor activities and are more prone for snake bites

Most of the patients were found to be men in working age group, especially from rural population. Majority of the snake bites occurred between 6 am to 10 pm, i.e., during working hours in the field. As expected, the snake bites more commonly involving lower limbs. So, this also shows that use of protective footwear can reduce the snake bites. We observed that 23.63% cases reached the hospital within 12 hour of bite, 41.81% cases within 12 to 24hours of bite.

In this study we observed that some delay in seeking medical aid was largely attributed to prevalent faith in healing by 'Mantra' magic, myths of sucking blood from bite site, manipulation of herbs especially among the lower socio-economic sections of the community. In the present study presenting symptoms were pain (88..18%), fever (34.54%), bleeding manifestation(60%). 88% of the patients had local cellulitis, indicating the vasculotoxic nature of envenomation. In viperine bites, the earliest symptom is development of pain and swelling due to cellulitis, which can spread over whole extremity,and can also lead to compartment syndrome threatening the viability of the limb or its part [4]. This can have important consequences if it leads to loss of digits due to ischemia and gangrene .Common findings on examination were tachycardia (79.09%), respiratory distress (44.54%), rales on chest auscultation (30.90%), and hypotension (20%). The hypotension can be result of various factors like bleeding, disseminated intravascular coagulation, vascular endothelial damage by the toxins which leads to plasma exudation. Early shock is probably explained by vasodilatation and late shock is precipitated by massive GI haemorrhage or acute pituitary and adrenal insufficiency [5]. Hypotension can be managed by early administration of ASV, timely correction of coagulopathy by administration of fresh frozen plasma or platelet concentrates as needed, and optimisation of intravascular volume by crystalloids. Other common laboratory findings were Anaemia (41.81%); Leucocytosis (31.81%); Thrombocytopenia (38.18%); Coagulopathy (60%);Metabolic Acidosis (44.54%).

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