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ORIGINAL ARTICLE

To assess cases of snake bite in adult patients- A clinical study

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ABSTRACT

Background: Every year worldwide, snakebite envenomation leads to more than 100,000 deaths. The present study was conducted to assess cases of snake bite admitted to department. **Materials & Methods:** The present study was conducted on 86 cases of snake bite of both genders admitted to department. A thorough clinical examination was done in all patients. The clinical features and cause of death was recorded. **Results:** Out of 86 patients, males were 62 and females were 24. Clinical findings were vomiting in 45, abdominal pain in 61, haemoptysis in 34, haematuria in 40, haematemesis in 39, cerebral haemorrhage in 24, altered sensorium in 67 and ophthalmoplegia in 12 patients. The difference was significant (P< 0.05). The site of snake bite was feet in 50 cases, forearm in 12, legs in 11 and abdomen in 13. Blood transfusion was done in 62 patients. Cause of death was respiratory paralysis in 14 and cerebral hemorrhage in 5 cases. The difference was significant (P< 0.05). **Conclusion:** Authors found that clinical findings were vomiting, abdominal pain, haemoptysis, haematuria, haematemesis, cerebral haemorrhage, altered sensorium and ophthalmoplegia.

Key words: Haemoptysis, Ophthalmoplegia, Snake bite.

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Introduction

Every year worldwide, snakebite envenomation leads to more than 100,000 deaths and causes permanent disability or disfigurement in about 400,000 cases.[1] South Asia is the most affected Region due to snakebite envenomation, and India contributes to 50 per cent of the estimated deaths due to venomous snakebites globally. In India, highest number of deaths due to snakebites has been reported in Uttar Pradesh, Andhra Pradesh, Bihar, Tamil Nadu, West Bengal and Maharashtra. Anti-snake venom (ASV) is the only effective specific treatment of snakebite envenoming.[2]

Snake bite is a major public health problem especially in tropical and subtropical countries. Snake venom is probably the oldest known poison to mankind and described in oldest medical writings and myths.[3] India has about 300 varieties of snakes of which about 70 are venomous and of these only 4 varieties of snakes are commonly encountered as the cause of snake bite poisoning. They are Russell's viper, Echis Carinatus (Viperidae), Cobras (Elapidae) and Pit Vipers (Cortalidae). Viperidae group causes haemorrhagic syndromes.[4] Elapidae group cause neuromuscular paralysis leading to flaccid paralysis leading to flaccid paralysis and death by respiratory failure. Cobra toxin and α-bungarotoxin act postsynaptically by binding to acetylcholine receptors on the motor end plate while β-bungarotoxin and crotoxin act presynaptically and prevent release of acetylcholine at the neuromuscular junction.[5] The present study was conducted to assess cases of snake bite admitted to department.

Materials & Methods

The present study was conducted in the department of Internal Medicine. It comprised of 86 cases of snake bite of both genders admitted to department. All were informed regarding the study and written consent was obtained. Ethical approval was obtained prior to the study.

General information such as name, age, gender etc. was recorded. A thorough clinical examination was done in all patients. The clinical features and cause of death was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table I Distribution of patients

Total- 86		
Gender	**Males**	**Females**
Number	62	24

Table I shows that out of 86 patients, males were 62 and females were 24.

Graph I Distribution of patients

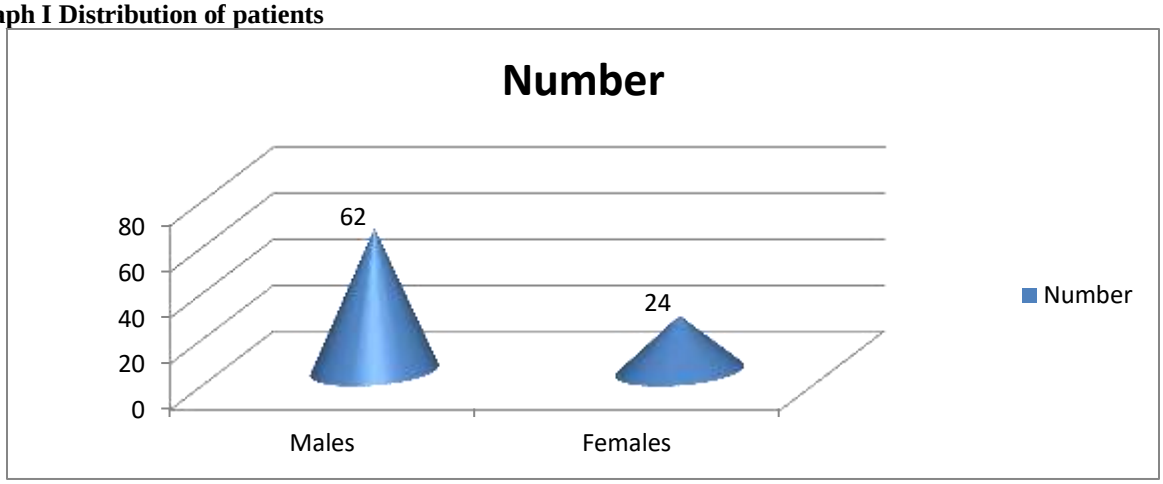

Table II Clinical findings in patients

Clinical findings	Number	P value
Vomiting	45	0.01
Abdominal pain	61	
Haemoptysis	34	
Haematuria	40	
Haematemesis	39	
Cerebral haemorrhage	24	
Altered sensorium	67	
Ophthalmoplegia	12	

Table II, graph II shows that clinical findings were vomiting in 45, abdominal pain in 61, haemoptysis in 34, haematuria in 40, haematemesis in 39, cerebral haemorrhage in 24, altered sensorium in 67 and ophthalmoplegia in 12 patients. The difference was significant (P< 0.05).

Table III Assessment of parameters

Parameters	Number	P value
Site Feet	50	0.01
Forearm	12	
legs	11	
Abdomen	13	
Blood transfusion	62	
Cause of death Respiratory paralysis	14	0.05
Cerebral Hemorrhage	5	

Table III shows that site of snake bite was feet in 50 cases, forearm in 12, legs in 11 and abdomen in 13. Blood transfusion was done in 62 patients. Cause of death was respiratory paralysis in 14 and cerebral hemorrhage in 5 cases. The difference was significant (P< 0.05).

Discussion

Snake bite remains a public health problem in most countries. The true incidence of snake envenomation could exceed 3 million per year. About 1,00,000 of these develop severe sequelae. The global disparity in the epidemiological data for snake bite reflects variation of health reporting accuracy and the great diversity of ecological and economic conditions throughout the world.[6] Finally, health facilities and availability of antivenin have to be considered in implementing the treatment of envenomations. In most developing countries lack of medical, especially antivenin therapy leads to high mortality levels. Considerable efforts will be needed to develop studies on snake bite epidemiology and improve the distribution and use of antivenin.[7]

Cobra venom contains cobra toxin and α- bungarotoxin which act postsynaptically by binding to acetylcholine receptors on the motor end plate while β bungarotoxin and crotoxin present in krait venom act presynaptically and prevent release of acetylcholine at the neuromuscular junction, resulting in muscle paralysis due to curare like neuromuscular blocking action affecting the muscles of eyes, throat and chest leading to type II respiratory failure. Respiratory failure was either a result o f respiratory muscle paralysis and/ or palatal paralysis leading to accumulation of secretions and aspiration.[8] The present study was conducted to assess cases of snake bite admitted to department.

In present study, there were 86 patients, of which males were 62 and females were 24. Meenatchisundaram et al[9] found that the annual incidence of snakebite was 36 per 100,000 population with case fatality rate of 4.5 per cent. Venomous snakebites were 76 per cent and non-venomous snakebites were 24 per cent. Overall, snakebites were more common in males (52.4%) than females (47.6%). Majority of the snakebites (66%) were in the age group of 18-45 yr. Seasonal variation was observed with highest snakebites in monsoon (58%). Lower extremities were the most common site of bites (63%). Neurotoxic and vasculotoxic envenomation were reported in 19 and 27 per cent snakebite cases, respectively. Anti-snake venom (ASV) was administered at an average dose of 7.5±0.63 vials (range 2-40, median 6).

We found that clinical findings were vomiting in 45, abdominal pain in 61, haemoptysis in 34, haematuria in 40, haematemesis in 39, cerebral haemorrhage in 24, altered sensorium in 67 and ophthalmoplegia in 12 patients. The site of snake bite was feet in 50 cases, forearm in 12, legs in 11 and abdomen in 13. Blood transfusion was done in 62 patients. Cause of death was respiratory paralysis in 14 and cerebral hemorrhage in 5 cases.

Gaitonde et al[10] found that among the total 113 cases of neuroparalytic snake bite victims (56.63%) were males aged 21-40 years. Majorities of the victims were bitten outdoor (63.71%) and most of the bites occurred on the lower limbs (83%). The highest number of cases occurred during the monsoon season of July-September. Most of the victims were farmers (53.44%) and labourers (30.55%), which suggested that snake bite was an occupational hazard. Mean dose of ASV administered was 16.99 vials. The percentage of patients requiring intensive care and ventilatory support were (40.70%) and the total percentage of patients showing recovery was (84.07%). The most important positive prognostic factor was reaching hospital within 7 hours.

Conclusion

Authors found that clinical findings were vomiting, abdominal pain, haemoptysis, haematuria, haematemesis, cerebral haemorrhage, altered sensorium and ophthalmoplegia.

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