

Original Research Article

TO STUDY CLINICAL PROFILE OF SNAKE BITE.

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Abstract:

Background & Method: The aim of this study is to study clinical profile of snake bite. The bites were classified as venomous and non-venomous based on clinical features. In venomous bites an attempt was made to determine whether they were bitten by elapidae or viperidae based on the description or examination (when brought) of the offending snake. Also whenever the patient had or developed unequivocal neuroparalysis or haemotoxic manifestation, they were assigned to elapidae or viperidae respectively.

Result: Anxiety was the common symptom (72%) seen in patients after snake bite. It was found in both poisonous and non-poisonous bites, and subsided once the patient received any form of treatment including that from a traditional healer. Ptosis (78%) was found to be the most common symptoms followed by ophthalmoplagia (60%) and vomiting (44%).

Conclusion: Most common age group is 20-50 years. Adult males are more prone to the bites during night and most common site of bite was lower limb. Poisonous bites are more common than non-poisonous in hospitalized patients. Anxiety was the most common symptom following snake bite. In neurotoxic envenomation ptosis was the commonest and earliest symptom while in hemotoxic envenomation, most common symptoms were bleeding from bite site and hematuria.

Snake bite is more common in males (72%) than females (28%). The incidence of venomous snake bite was 62% whereas non poisonous constituted 38%. Among poisonous bites neurotoxic manifestations (60%) were common than hemotoxic manifestation (2%). Local toxicity also appeared in 25% of patients.

Keywords: clinical & snake bite.

Study Designed: Observational Study.

1. INTRODUCTION

Snake bite envenomation is a common, acute life threatening medical emergency in India. An estimated 40900-50900 people die of snake bite every year in India.¹ Snakes are fascinating and form an important component of fauna and are the objects of awe and curiosity since the dawn of civilization.

Snakebite is a one of the common medical emergency encountered in day to-day practice in India. In India 236 species of snakes have been identified out of which 52 are poisonous². The annual mortality from snake bites all over the world is 1,20,000³.

There are four medically important venomous land snakes in India, the Indian Krait (*Bangarus Coeruleus*), the common Cobra (*Naja Naja*), the saw scaled viper (*Echis Carinatus*) and Russel's viper (*Viper Russelli*)⁴.

The distribution of the snakes differs depending on the herpato fauna existing in any particular region and climatic conditions like temperature and rainfall. The pattern of bites also depends on occupation, recreational habits, clothing and season⁵. Most of the snake bites occur in fields, usually during rainy season. Snake bites can be prevented to a certain extent by educating people working in fields to use protective gears like gumboots and gloves⁶.

Snake bite is completely treatable if treated in time. Immediate steps should be taken to shift the victim to the hospital as early as possible. Educate the people to avoid traditional heals so that we can reduce the time lapse for the admission of hospital. All cases of doubtful snake bites should be admitted in hospitals to watch the toxicity for proper treatment.

2. MATERIAL & METHOD

This Prospective observational study was conducted in Department of Medicine, G.R. Medical College, J.A. group of Hospital & KRH, Gwalior with Sample size: 100 cases from duration : April 2019 to October 2020

Inclusion criteria:

- Age > 14 years
- All confirmed cases of snake bite

Exclusion criteria:

- Age < 14 years

3. METHODS:

In all the patients presenting with snakebites and fulfilling inclusion criteria, detailed history was taken and examination done as per enclosed proforma. It was determined whether the bites were venomous or non-venomous.

The snakebite was identified from modified criteria of Sarangi et al⁵⁴ by:

1. Fang marks: Lesions resulting from snake bites are, as a rule, two lacerated punctures, about 1.25 cms deep in the case of non-poisonous and about 2.5 cm deep in the case of poisonous snake bites. An inverted 'U' shaped or multiple teeth marks indicate non-poisonous snakebite.

2. Identification of snakes living or dead.
3. Description given by the patient /attender about the snake length, thickness, colour, head etc.
4. The development of signs and symptoms of local or systemic envenomation.

The bites were classified as venomous and non-venomous based on clinical features. In venomous bites an attempt was made to determine whether they were bitten by elapidae or viperidae based on the description or examination (when brought) of the offending snake. Also whenever the patient had or developed unequivocal neuroparalysis or haemotoxic manifestation, they were assigned to elapidae or viperidae respectively.

4. RESULTS

Table 1: Distribution of cases according to gender

Gender	No. of patients	Percentage
Male	72	72
Female	28	28
Total	100	100

Snake bite is more common in males (72%) than females (28%).

Table 2: Distribution of cases according to time of bite

Time of bite	No. of patients	Percentage
Day	40	40
Night	56	56
Not Known	04	04
Total	100	100

The study shows that maximum number of bites occurred in night (56%) while day time bite was 40%.

Table 3: Distribution of cases according to type of toxicity

Type of toxicity	No. of patients	Percentage
Neurotoxicity	60	60
Hemotoxicity	02	02
Local toxicity	25	25
No toxicity	38	38

The incidence of venomous snake bite was 62% whereas non poisonous constituted 38%.

Among poisonous bites neurotoxic manifestations (60%) were common than hemotoxic manifestation (2%).

Local toxicity also appeared in 25% of patients.

Table 4: Distribution of cases according to clinical symptoms

Clinical symptoms	No. of patients	Percentage
Anxiety	72	72
Vomiting	28	28
Ophthalmoplagia	36	36
Ptosis	46	46
Respiratory paralysis	07	07
Breathlessness	25	25
Difficulty in swallowing	16	16
Slurring of speech	17	17
Drowsiness	18	18
Unconscious	05	05

Anxiety was the common symptom (72%) seen in patients after snake bite. It was found in both poisonous and non-poisonous bites, and subsided once the patient received any form of treatment including that from a traditional healer. Ptosis (78%) was found to be the most common symptoms followed by ophthalmoplagia (60%) and vomiting (44%).

5. DISCUSSION

The incidence of snake bite is more common among males because of more movements of male occupationally. Out of all patients, 72% were males and 28% were females. These results are similar to Sharma et al⁷ (70% males and 30% females).

In all patients, 56% were bitten in night time and 40% were bitten in day time and 4% patients not given history of snake bite. These results are similar to Sharma et al⁷ (60% in night). Afternoon bites more common because of peak agricultural activity, evening and night bites were more because of agricultural activity and poor lightening.

In our study, neurotoxicity was found more frequently than hemotoxicity. Almost, 60% patients appear with neurotoxicity. Local toxicity symptoms also appeared in 41%. Sharma et al (2004)⁷ also found that most envenomed patients had sign of neurotoxicity a usual consequence of cobra and krait bite⁸. Though these results were different from Sharma N et al⁴, in which they found that 60% (86 of 142) had neurotoxicity and 40% had vasculotoxicity. It may be due to high availability of Cobra snake in Chambal region⁹. Punde dP et al found that

633 cases of snake bite 65.2% cases were saw scaled viper, 16.6% by cobra. 9.8% by krait and 9.4% were due to Russel viper.

6. CONCLUSION

Most common age group is 20-50 years. Adult males are more prone to the bites during night and most common site of bite was lower limb. Poisonous bites are more common than non-poisonous in hospitalized patients. Anxiety was the most common symptom following snake bite. In neurotoxic envenomation ptosis was the commonest and earliest symptom while in

hemotoxic envenomation, most common symptoms were bleeding from bite site and hematuria.

Snake bite is more common in males (72%) than females (28%). The incidence of venomous snake bite was 62% whereas non poisonous constituted 38%. Among poisonous bites neurotoxic manifestations (60%) were common than hemotoxic manifestation (2%). Local toxicity also appeared in 25% of patients.

7. REFERENCES

- [1] K.S. Narayan Reddy's Textbook of The Essentials of Forensic Medicine and Toxicology. Section II, Organic Irritant Poisons, 34th Edition, Page 519.
- [2] Smith MA. The fauna of British India, Ceylon: Reptilla and Amphibia, Vol III Serpents, Taylor and Francis, London 1943.
- [3] Minton SA. Snake venom and envenomation (Eds). Marcel Dekker Inc., New York, 19071.
- [4] Chatterjee SC. Management of Snakebite Cases. JIMA, 1965; 45: 654- 659.
- [5] Sharma S, Saini RK, Arya RK, Singh S, Gupta VK, Pathania NS: Coagulation defects in snake bite poisoning, JAPI 1985, 33 (2); 148-151.
- [6] Warell DA: Animal Toxins-Venomous bite and stings in Manson's Tropical Disease 20th, W.B. Saunders: 20 Ed. Pp. 68-95.
- [7] Mehtha PJ, Sainani GS. Bleeding following snake bite JAPI 1984; 32 (5): 389.
- [8] Kornalik F and Blomback B: Prothrombin activation induced by ecarin-a prothrombin converting enzyme from Echis carinatus vemon. Thromb Res. 1975, 6: 53-63.
- [9] Dash SC, Ghosh SK, Mathew DC, Jha GN, Prasad W, Gewal KS. Neurotoxic snake bite. Dramatic Recovery following neostigmise therapy, JAPI 1976, 24: 525-37.