



STUDY OF CLINICAL PROFILE AND OUTCOME OF 100 CASES OF SNAKE BITE

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ABSTRACT

INTRODUCTION: India has always been land of exotic snakes. Around 216 varieties found in India, Most common among them are:- Russel Viper, Saw scaled viper, Krait, Cobra

Aims of study: to study the various treatment modalities of snake bite,

Materials and methods: prospective study of 100 cases of snake bite during the period from July 2015 to July 2017

Results: Majorities of patients, 87 % were cured due to early diagnosis and prompt treatment.

Conclusion: Early hospital admission after the toxic snake bite, round the clock availability of polyvalent ASV at CHC and PHC level, good artificial respiratory devices, under expert supervision to counteract any complication if arises, during treatment of toxic snake bite will reduce mortality to a larger extent.

KEYWORDS : HEMOGLOBIN ; VITAMIN-A ; IRON DEFICIENCY ANEMIA

INTRODUCTION:

- In tropical countries, it is an occupational disease of farmers and other agricultural workers especially during harvest and rainy season in rural areas. The signs and symptoms of snake bite depend upon many factors apart from the species of snake and the degree of envenomation.
- Venom is a source of lethal and deleterious peptide toxins and enzymes.
- An attempt is made to correlate the factors like age, sex, area, occupation, season and time and site of bite with the incidence of snake bite.
- We also tried to correlate the clinical complications with the existence of species of snakes in and around Rajkot district and biochemical investigations with the diagnosis of acute renal
- This report is prepared from the snake bite patients admitted to P.D.U. Medical College, Civil hospital, Rajkot during the period from July 2015 to July 2017.

Aims of study:

- To study the of snake bite in different age group >13.
- To study course and complication of snake bite.
- To study the efficacy of various treatments modalities for snake bite
- To study the overall outcome of snake bite.
- To study mortality and severity of snake bite patients.

MATERIALS AND METHODS:

- A total of 100 poisonous snake bite case reports obtained from P.D.U. Medical College, Civil hospital, Rajkot records during the period from July 2015 to July 2017 are assayed for the following groups of factors.

Inclusion criteria:

- 1) Patient must have a toxic snakebite.
- 2) Patient must have a clinical evidence of toxic snakebite, like

- Fang marks
- Local cellulites
- Local bleeding
- Ptosis
- Respiratory failure
- accompanied by toxic snake

- 3) Age above 12 years, irrespective of location of residence.

Exclusion criteria

- 1) Patient with alleged history of something bite.
- 2) Patient with alleged history of snake bite without sign and symptom of poisonous snake bite.
- 3) Brought dead patient

RESULTS:

Table-1

Distribution of snake bite incidence - Age group, Sex, Occupation and Area wise.

	Age Group (Yrs)			Sex		Occupation		Area	
	<20	20-40	>40	M	F	Agriculture	Non Agriculture	Rural	Urban
No. Of cases	16	58	26	67	33	24	76	75	25

Table 2 Correlation of snake bite incidence with Season, Time and Site of bite

	Season			Time of Bite		Site of bite		
	Summer	Rainy	Winter	Day	Night	Upper	lower	Others
No. Of cases	10	68	22	48	52	64	31	05

Table 3 Common Clinical complications of Snake bite cases

	Neurotoxicity	Cellulitis	Hematotoxicity	Hematotoxicity+ARF	Neurotoxicity+ARF
No. Of cases	61	08	30	06	13

Table-4 Duration between bite and hospitalization

DURATION BETWEEN BITE AND HOSPITALIZATION	NO. OF CASES	MORTALITY
<12 hours	76 (76%)	5 (5%)
>12 hours	24 (24%)	8 (8%)
Total	100 (100%)	13 (13%)

Discussion:

- In the present report, 100 cases were analysed, 61 cases were diagnosed as neurotoxic snake bite and 30 cases confirmed as hematotoxic snake bite.
- 87 patients were recovered and 13 patients were expired. Most common cause of death is respiratory failure.

TABLE – 1

- Table-I shows that the maximum number of snake bite patients were males of age ranging from 20-40 years with agricultural occupation from rural area in and around Rajkot district.
- From the above observations there is significant correlation of snake bite with these factors as reported earlier by many studies.
- These individuals are more involved in their agricultural activities in their fields posing more risk for the incidences of snake bite in rural areas.

TABLE – 2

- Table-II shows the significant correlation of incidence of snake bite with season, time and site of bite.
- It is observed that the more common sites of bite were lower or upper extremities as compared to other parts of the body.
- Also the more number of snake bite cases were observed during night time and rainy season.
- These observations show that the extremities of the body come in contact with hidden snake during the course of their activities in their fields during night time.
- However, night snake bites are attributable to snakes entering the human dwellings in search of their prey.
- In rainy season flooding and blocking of holes increases snake population and cause more snake bites.

TABLE-3

- Table-III shows the common clinical complications of snake bite cases which can be correlated to the existence of the species of the snakes.
- It was observed that the common symptoms were of neurotoxicity is mainly due to neurotoxin of krait or cobra which blocks the transmission at neuromuscular junction and cause respiratory paralysis leading to death.
- It was also observed that the renal failure is associated with toxic snake bite.
- These complications may be due to the vasculotoxic (Haemolysin) action of vipers which cause enzymatic destruction of cell walls and coagulation disorders and Cellulitis.
- Our observations show that the existence of poisonous species of snakes like krait, cobra and vipers in and around Rajkot District.
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- Our observations show that the existence of poisonous species of snakes likes krait, cobra and vipers in and around Rajkot District.
- In severe envenomation, in viper bites (Russel's viper) there is a direct toxic effect of venom on renal tubule.

TABLE – 4

- 8(8%) patient died when they come to hospital >12 hour or when the hospitalization delayed >12 hours, mortality increases.
- 5(5%) patient died when the patient came to the hospital in <12 hrs of bite.
- So delayed in treatment after the snake bite increases the mortality by 13%.
- Our report is based on the hospital data which is a source of mostly seriously envenomated patients.
- A population surveys, epidemiological methods

immunological and biomarkers investigations may give more clear picture of snake bites, which may help the diagnosis & treatment of the snake bite.

Conclusion:

- The maximum incidence of snakebite was found in 21-40 year of age group i.e. 58% of total patients because this age group is highly active and has a maximum outdoor activity.
- Maximum numbers of patients i.e. 75% were from rural area, as environmental condition of rural area is favorable for snake survival.
- Rainy season between June to October has high incidence period of Snake Bite i.e. 79% of 100 patients because of snake are cold blooded creature with lack of internal organ for regulation of body temperature and also during rainy season water enter into snake burrow leading to increase number of snake on the ground.
- Early hospital admission after the toxic snake bite, round the clock availability of polyvalent ASV at CHC and PHC level, good artificial respiratory devices, under expert supervision to counteract any complication if arises, during treatment of toxic snake bite will reduce mortality to a larger extent.

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