International Journal of Advanced Community Medicine

E-ISSN: 2616-3594
P-ISSN: 2616-3586
www.comedjournal.com
IJACM 2020; 3(3): 49-51
Received: 21-05-2020
Accepted: 23-06-2020

Dr. Satya Prakash Dixit
Assistant Professor, Department of Forensic Medicine, TS Misra Medical College and Hospital, Lucknow, Uttar Pradesh, India

Dr. Amit Pratap Singh
Assistant Professor, Department of Forensic Medicine, Prasad Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Corresponding Author:
Dr. Amit Pratap Singh
Assistant Professor, Department of Forensic Medicine, Prasad Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Assessment of profile of snake bite victims in a tertiary care centre: An observational study

Dr. Satya Prakash Dixit and Dr. Amit Pratap Singh

DOI: https://doi.org/10.33545/comed.2020.v3.i3a.164

Abstract
Background: Incidence and frequency of snake bite vary in different geographic regions, depending on several factors like climate, ecology, biodiversity, distribution of snakes & human density. Hence; the present study was undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre.
Materials and Methods: A total of 200 patients were enrolled in the present study. Data of only those patients were included who reported with snake bites. Complete data record files of all these 200 patients was analyzed. Demographic and clinical data was tabulated and assessed. Details of the treatment therapy received along with the final outcome of treatment were also recorded. On the basis of autopsy findings in non-survivors, in which patients died because of necropsy, was regarded as mortality.
Results: In 84.5 percent of the patients, the place of bite was field area while in 19.5 percent of the patients, place of bite was house region. In 72.5 percent of the cases, leg region was bitten while in 11.5 percent of the cases, foot region was bitten. In 51 percent of the cases, the admission time from the point of snake bite was 1 to 4 hours. Mortality among snake bite patients was 4.5 percent.
Conclusion: A reduction in time of approaching medical emergency facility reduced in past few years due to awareness about snake bite treatment and better transport facility.

Keywords: Snake bite, victim.

Introduction

Indian physicians were known from 326 BC for their ability to treat poisonous snakebites. Having known about venomous snakes for more than 2500 years, we still fall back short in curtailing snakebite-induced deaths. There are 52 species of venomous snakes in India, of which 24 are considered as most important. Incidence and frequency of snake bite vary in different geographic regions, depending on several factors like climate, ecology, biodiversity, distribution of snakes & human density. India is thought to have more snakebites than any other country [1-3].

The main cause of this "unacceptable incidence" of snake bite fatalities is that people try out all kinds of "bizarre remedies" initially, instead of going to the nearest hospital. The available data on the epidemiology of snakebite from the Indian subcontinent are sparse, because most of the snake bites occur in illiterate, rural people who use witchcraft and traditional healers. Only the cases of snakebite with severe envenomation reach the healthcare centres [4-6]. Hence; the present study was undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre.

Materials and Methods

The present study was undertaken with the aim of assessing profile of patients with Snake Bites. A total of 200 patients were enrolled in the present study. Data of only those patients were included who reported with snake bites. Complete data record files of all these 200 patients was analyzed. Demographic and clinical data was tabulated and assessed. Details of the treatment therapy received along with the final outcome of treatment were also recorded. On the basis of autopsy findings, in which patients died because of necropsy, was regarded as mortality. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Chi-square test was used for evaluation of level of significance.

Results

In the present study, a total of 200 subjects were analysed. Mean age of the patients was 46.8 years. 25.5 percent of the patients belonged to the age group of 41 to 50 years. 22.5 percent of the patients belonged to the age group of 51 to 60 years. 64 percent of the patients were males while the remaining were females. In 84.5 percent of the patients, the place of bite was field area while in 19.5 percent of the patients, place of bite was house region. In 72.5 percent of the cases, leg region was bitten while in 11.5 percent of the cases, foot region was bitten. In 51 percent of the cases, the admission time from the point of snake bite was 1 to 4 hours. Mortality among snake bite patients was 4.5 percent.

Table 1: Demographic data

Parameter		Number of patients	Percentage of patients
Age group (years)	Less than 30	23	11.5
	30 to 40	39	19.5
	41 to 50	51	25.5
	51 to 60	45	22.5
	More than 60	42	21
Gender	Males	128	64
	Females	72	36

Table 2: Place of bite

Place of bite	Number of patients	Percentage
Field	169	84.5
House	19	19.5
Road outside	7	3.5
Toilet	5	2.5

Table 3: Part of body bitten

Part of body bitten	Number of patients	Percentage
Neck	6	3
Chest	3	1.5
Forearm	4	2
Hand	7	3.5
Hip	12	6
Leg	145	72.5
Foot	23	11.5

Table 4: Snake bite admission time

Snake bite admission time	Number of patients	Percentage
Less than 1 hour	13	6.5
1 to 4 hours	102	51
4 to 10 hours	68	34
More than 10 hours	17	8.5

Table 5: Outcome

Outcome	Number of patients	Percentage
Survived	191	95.5
Death	9	4.5

Discussion

Snakebites represent a significant health issue worldwide, estimated to affect several million people each year, and has been estimated to result in 95, 000–150, 000 deaths annually. Despite this it has only recently been officially recognised as a neglected tropical disease by the World Health Organization. The problems associated with snakebite are particularly acute in South Asia, and India in particular, which is considered to have the highest incidence of snakebites and associated deaths in the world [7- 9].

Much remains unknown about snakebites in India. Knowledge about the snakes responsible is still developing: the major snakes of medical importance in India have historically been considered to be: the Russell's viper (*Daboia russelii*), the saw-scaled viper (*Echis carinatus*), the Indian cobra (Naja naja) and the common krait (*Bungarus caeruleus*), which together are known as the 'Big Four' [6-8]. Hence; the present study was undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre.

In the present study, a total of 200 subjects were analysed. Mean age of the patients was 46.8 years. 25.5 percent of the patients belonged to the age group of 41 to 50 years. 22.5 percent of the patients belonged to the age group of 51 to 60 years. 64 percent of the patients were males while the remaining were females. Vaiyapuri S *et al* conducted a study within rural villages in India, which combined a household survey (28, 494 people) of snakebite incidence with a more detailed survey of victims in order to understand the health and socio-economic effects of the bite, the treatments obtained and their views about future improvements. Their survey suggested that snakebite incidence is higher than previously reported. 3.9% of those surveyed had suffered from snakebite and the number of deaths corresponds to 0.45% of the population. Snakebite has a considerable and disproportionate impact on rural populations, particularly in South Asia [10].

In the present study, in 84.5 percent of the patients, the place of bite was field area while in 19.5 percent of the patients, place of bite was house region. Rao CP *et al* studied 60 fatal snakebite cases retrospectively for 5 years with an objective to know the socio-demography, latency and pattern of injuries in rural Southern India. Most of the victims were males, in the age group of 31-50 years and were at risk of snake bites while farming. Large sample of subjects approached traditional therapists and were deprived of essential care in the critical first few hours after snake bite. Fang marks (90%), local ecchymoses (50%) and internal hemorrhage (28.3%), were the frequent demonstrable signs appreciated at autopsy [11].

In the present study, in 72.5 percent of the cases, leg region was bitten while in 11.5 percent of the cases, foot region was bitten. Jarwani B *et al* studied the snake bite cases with particular attention to demography, epidemiology, and clinical profile. 61.2% incidents took place at night time or early morning (before 6 a.m.). 64% patients had bite mark on the lower limb. 40% victims had seen the snake. Eight patients had snake bite, but were asymptomatic. 52% had neuroparalytic manifestation, 34% were asymptomatic, and 9.6% had hemorrhagic manifestation. 14% cases received treatment within 1 h of the bite and 64.84% within 1-6 h after the bite. In Gujarat, neuroparalytic manifestation of snake bite is more prevalent. Cobra and krait are the commonest types of poisonous snakes [12].

In the present study, in 51 percent of the cases, the admission time from the point of snake bite was 1 to 4 hours. Mortality among snake bite patients was 4.5 percent. Halesha BR *et al.* described the epidemiology, arrival delays, clinical features, complications, and the outcome of snakebites which were seen in a tertiary care hospital of southern India. Among total 180 cases of snake bite, there were 108 cases of viper bite which presented with haematotoxic manifestations and 74 elapid bites had neuroparalytic manifestations. Most of the victims were farmers (54.4%) and plantation workers (30.5%), which

suggested that snake bite was an occupational hazard. A reaction to the ASV was noted in 12.7% of the patients and the mortality rate in their study was 3.8% [13].

Conclusion

From the above results, the authors concluded that a reduction in time of approaching medical emergency facility reduced in past few years due to awareness about snake bite treatment and better transport facility. Mortality is very less in well-equipped hospitals due to early initiation of treatment.

References

1. Mohapatra B, Warrel DA, Suraweera W, Bhatia P, Dhingra N, Jotkar RM *et al*. Snakebite mortality in India: A National Representative Mortality survey. PLoS Negl Trop Dis 2011;5(4):1018.
2. Pillay VV: Bites and Stings. In Textbook of Forensic Medicine and Toxicology. 16th edition. Edited by Pillay VV. New Delhi: Paras Medical pubisher 2011:471-483.
3. Cesaretli Y, Ozkan O. Snakebites in Turkey: epidemiological and clinical aspects between the years 1995 and 2004. The Journal of Venomous Animals and Toxins including Tropical Diseases 2010;16(4):579.
4. White J. Bites and stings from venomous animals: A global overview. Ther Drug Monit 2000;22:65-68.
5. Chippaux JP. Snake-bites: Appraisal of the global situation. Bull World Health Organ 1998;76:513-524.
6. Kasturiratne A, Wickremasinghe AR, de Silva N, Gunawardena NK, Pathmeswaran A *et al*. The global burden of snakebite: A literature analysis and modelling based on regional estimates of envenoming and deaths. PLoS Med 2018;5:218.
7. Saini RK, Sharma S, Singh S, Gupta VK, Pathania NS. Primary pathological fibrinolysis in saw-scaled (*Echis carinatus*) viper bites. J Assoc Physicians India 1984;32:391-93.
8. Myint-Lwin, Warrell DA, Phillips RE *et al*. The bites of Russell's viper (*Vipera russelli siamensis*) in Burma: Haemostatic, vascular, and renal disturbances and response to the treatment. Lancet 1985;2:1259-64.
9. Hati AK, Mandal M, De MK, Mukherjee H, Hati RN. The epidemiology of snake bites in the district of Burdwan, West Bengal. J Indian Med Assoc 1992;90(6):45-47.
10. Vaiyapuri S, Vaiyapuri R, Ashokan R *et al*. Snakebite and its socio-economic impact on the rural population of Tamil Nadu, India. PLoS One 2013;8(11):80090.
11. Rao CP, Shivappa P, Mothi VR. Fatal snake bites - sociodemography, latency pattern of injuries. J Occup Med Toxicol 2013;8(1):7.
12. Jarwani B, Jadav P, Madaiya M. Demographic, epidemiologic and clinical profile of snake bite cases, presented to Emergency Medicine department, Ahmedabad, Gujarat. J Emerg Trauma Shock 2013;6(3):199-202.
13. Halesha BR, Harshavardhan L, Lokesh AJ, Channaveerappa PK, Venkatesh KB. A study on the clinico-epidemiological profile and the outcome of snake bite victims in a tertiary care centre in southern India. J Clin Diagn Res 2013;7(1):122-126.