

## Original Research

### Analysis of Snake Bite Victims reporting to a Tertiary Care Centre: A clinical study

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#### ABSTRACT:

**Background:** The present study was undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre. **Materials & methods:** 100 subjects were enrolled in the present study. Only those subjects were enrolled in the present study which reported with snake bites. Complete data record files of all these 100 patients was analyzed. Complete 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.

**Results:** Analysis of 100 patients was done. Mean age of the subjects was 49.8 years. Majority of the patients belonged to the age group of more than 40 years. 61 percent of the patients were males while the remaining were females. In more than 90 percent of the patients, the place of bite was out field. In 5 percent of the cases, the place of bite was inside the house. In more than 75 percent of the cases, the part of body bitten by snake was leg while in 4 percent of the patients; the part of body bitten was hip. Overall, mortality rate was 3 percent. **Conclusion:** Snake bite is a neglected, life-threatening emergency in developing countries such as India and demands immediate anti-venom therapy. Hospital studies are a key source of information about snake bites.

**Key words:** Snake bite, Victim

**Received:** September 17, 2019

**Accepted:** October 22, 2019

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**This article may be cited as:** Mehra V, Sharma R. Analysis of Snake Bite Victims reporting to aa Tertiary Care Centre: A clinical study. J Adv Med Dent Scie Res 2019;7(11):243-245.

#### INTRODUCTION

World mortality from snake bite is estimated as 50,000 to 1,00,000 annually (McNamee 2001) and the greatest number of reported snake bite death occurring in Indian subcontinent is 10,000 to 15,000 annually. World Health Organization (WHO 1963) reports 40,000 annual deaths in tropical countries. Largest number of deaths reported in India is from Bengal, Uttar Pradesh (UP), Tamil Nadu, Bihar, and Maharashtra. It is a fact that inspite of heavy morbidity and mortality, very little attention is paid by the clinicians to this occupational hazard.<sup>1-3</sup> The increased mortality and morbidity in tropical countries is attributed to the scarcity of anti-snake venoms, minimal access and poor quality of healthcare services. People in countries like India prefer traditional healers rather than trained doctors, mainly because of ignorance and monetary issues as a result of which 77% of the snakebite victims in rural areas die outside the health care set up.

Snakebites can cause severe complications like shock, systemic bleeding, respiratory muscle paralysis, acute renal failure and necrosis of tissue at the site of the bite. Snakes from the family Viperidae and Elapidae are known to cause more severe consequences. Since complications of snakebite develop rapidly and irreversibly, medical intervention must be prompt and appropriate.<sup>4-6</sup> Hence; the present study was undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre.

#### MATERIALS & METHODS

The present study was undertaken with the aim of assessing profile of patients with Snake Bites. 100 subjects were enrolled in the present study. Only those subjects were enrolled in the present study which reported with snake bites. Complete data record files of all these 100 patients was analyzed. Complete 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 necrosis, was regarded as mortality. Tabulation of the results file was done in Microsoft excel sheet and was subjected to statistical analysis using SPSS software.

## RESULTS

Analysis of 100 patients was done. Mean age of the subjects was 49.8 years. Majority of the patients

belonged to the age group of more than 40 years. 61 percent of the patients were males while the remaining were females. In more than 90 percent of the patients, the place of bite was out field. In 5 percent of the cases, the place of bite was inside the house. In more than 75 percent of the cases, the part of body bitten by snake was leg while in 4 percent of the patients; the part of body bitten was hip. Overall, mortality rate was 3 percent.

**Table 1: Demographic data**

Parameter		Number of patients	Percentage of patients
Age group (years)	Less than 30	15	15
	30 to 40	18	18
	41 to 50	26	26
	51 to 60	21	21
	More than 60	20	20
Gender	Males	61	61
	Females	39	39

**Table 2: Place of bite**

Place of bite	Number of patients	Percentage
Field	91	91
House	5	5
Road outside	2	2
Toilet	2	2

**Table 3: Part of body bitten**

Part of body bitten	Number of patients	Percentage
Neck	2	2
Chest	2	2
Forearm	3	3
Hand	3	3
Hip	4	4
Leg	76	76
Foot	10	10

**Table 4: Outcome**

Outcome	Number of patients	Percentage
Survived	97	97
Death	3	3

## DISCUSSION

Every year, 50,000 Indians die in 2, 50,000 incidents of snake bite, despite the fact that India is not home for the largest number of venomous snakes in the world, nor is there a shortage of anti –snake venom in the country. 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.<sup>6- 9</sup>Hence; the present study was

undertaken for assessing the Snake Bite Victims in a Tertiary Care Centre.

Analysis of 100 patients was done. Mean age of the subjects was 49.8 years. Majority of the patients belonged to the age group of more than 40 years. 61 percent of the patients were males while the remaining were females. In more than 90 percent of the patients, the place of bite was out field. In 5 percent of the cases, the place of bite was inside the house. 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.<sup>10</sup>

In more than 75 percent of the cases, the part of body bitten by snake was leg while in 4 percent of the patients, the part of body bitten was hip. Overall, mortality rate was 3 percent. Ghosh R et al investigated the mortality and morbidity due to snakebite. Number of males was 134(60.36%) and female 88 (39.63%). Maximum snakebite deaths occurred in the age group of 31–40 years during agricultural and outdoor activities. Most of the snakebites occurred during June–September. Out of the 222 cases of snakebite, 182(82%) cases were due to viper envenomation. Maximum number of cases(n = 162) were detected in the interval between 4.00 PM to 8.00 PM. The bite to hospital time was found to be  $180 \pm 3.5$  mins (n = 190 cases) and bite to AVS injection time was found to be  $240 \pm 3.5$  mins (n = 190 cases). The mean bleeding time was  $12.55 \pm 3.2$  min (n = 190 cases). The mean clotting time was found to be  $20.1 \pm 2.55$  min (n = 190 cases). The symptoms of envenomation included local signs of inflammation(100% cases), blisters and necrosis (45% cases), renal failure (20% cases), coagulopathies(57% cases), ptosis(10% cases), dysphagia(2%) and respiratory distress(15% cases). The WHO protocol for snakebite management was followed for treatment of snakebite victims.<sup>11</sup>

Kshirsagar VY et al determined the age, mode of presentation, seasonal variation, clinical profile and outcome of patients with snake bite less than 15 years of age. Out of the 162 patients 98 (60.49%) were males. The bites were vasculotoxic in 147 (90.74%) and neuromuscular in 15 (9.25%) patients. Mainly bites occurred from July to September with 84 (51.85%) bites. Bites were more common in males in age more than 5 years (89%) with bite marks mainly on lower limbs in 120 (74.04%) patients. Deaths were reported in patients who reported late to the

hospital with a mortality rate of 1.85%. Snake bite is a life threatening emergency.<sup>12</sup>

## CONCLUSION

From the above results, the authors concluded that Snake bite is a neglected, life-threatening emergency in developing countries such as India and demands immediate anti-venom therapy. Hospital studies are a key source of information about snake bites.

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