

PATTERN OF SNAKE BITE CASES VISITING AT RURAL HEALTH CENTRE OF SINDH, PAKISTAN

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ABSTRACT

Objective: This study was carried out to determine the pattern of snake bite in a rural area of Sindh Pakistan over a 07-year period.

Study Design: A Descriptive Study

Place and Duration of Study: A total record of 5737 snake bite cases attending rural health centre Ranipur District Khairpur between 2000 and 2007 were analysed retrospectively.

Patients and Method: A retrospective review of record of snake bite patients was carried out who had attended the health care centre first time for further management. Patients with history of previous visit for treatment were excluded from the study.

Results: Out of 5737 victims 44.18% were children less than 15 years and 22% were more than 35 years. Most of the patients (87.22%) were hospitalized after 24 hours of the snake bite. Majority of them (91.99%) came with the history of single bite. Of the 5337 envenomed by poisonous snakes, 56.99% were bitten by Cobra, and 35% by Krait and Viper. Lower extremities were the most common sites of the snake bite (69.99%).

Conclusion: Snake bite is one of a significant problem in the study area. We observed the delayed consultation of the victims to the hospital. Further research on successful management of these victims was recommended.

Key words: Snake-bite, Cobra, Viper, Krait.

INTRODUCTION

In Pakistan, it is estimated that around 1.9 per 100,000 populations die annually from snake bite¹. Snake bite, a neglected public health problem is an important cause of death in rural patients in developing countries². The major reason for mortality is the delay in getting the victim to a well-equipped casualty treatment facility fast enough. One research revealed that the victims of snake bite are mainly of the rural population, who are bitten during field work and when sleeping outdoors³. Another study found that most envenomed patient are bitten during daylight on the lower limb and are rarely able to describe the snake⁴. Later this study suggest earlier treatment with anti-venom and earlier referral to hospital to reduce the mortality rate.

The type of snake bite varies from region to region. It is reported that up to 14,000 people

die annually from snake bites especially by Cobra and Viper⁵.

In Sindh, Pakistan record of secondary health care centers have shown it to be among the five commonest causes of admission to the hospitals¹. As very few studies have been done on the issue in Sindh, Pakistan. This study becomes important in the sense that it was carried out to see the prevalence of snake-bite, type of snake site and time lapsed from the time of bite till the time of hospital admission in a Taluka health care centre Ranipur, district Khairpur of Sindh Pakistan.

PATIENTS AND METHODS

This descriptive study conducted at rural health centre Ranipur, district Khairpur, Sindh Pakistan during the year 2000 through 2007. This centre is the most important health care center developed by the government of Sindh for the population living in Ranipur and adjacent small rural areas. Anti Snake Venom (ASV) facility was available in the center along with other medical facilities. In present study, all first time visiting patients to the centre with first discharge diagnosis of snake bite were

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included. Records of patients visited centre in the past with diagnosis of envenomation from snake and other species were excluded from the study. After a careful review, record of a total of 5737 patients including 4617(80.47%) males and 1123 (19.58%) females were analysed.

The diagnosis of snakebite was established on the basis of a history of snake bite. Data was recorded with reference to type of snake identified; age and sex of the patients; site of bite; history of previous bite and time of bite till the time of hospital admission.

Result was expressed as frequency percentages.

RESULTS

Five thousand seven hundred and thirty seven patients of snake bite became eligible for the study, over a period of 7 years. Gender distribution revealed that 4617(80.47%) were males while 1123 (19.52%) were females. Most of the cases were in age group of 5-14 years (Table). The identification of snake species was based upon the clinical diagnosis at admission. The vast majority of patients were diagnosed as having been bitten by snakes by cobra while 2008 (35.0%) were by Krait and Vipers. In 8% of cases, the species of snake was unidentified at the time of admission. Five thousand and four (87.22%) victims reached the health facility after 24 hours and other 733 (12.78%) within 24 hours of being bitten. Ninety two percent cases were bitten once in their life, while only 8.0% of cases had history of multiple bites. The majority of snake bites (98.6%) occurred on the extremities, 3442 (69.99%) on the lower and 1663 (28.99%) on the upper extremity.

DISCUSSION

This study provides evidence that snake bite problem is as common in rural areas of Sindh as in other province of Pakistan and throughout the world. In present study high number of cases reported during the study period found similar with the previous studies done on snake bite⁵⁻⁷. The distribution of cases by age, sex, and anatomical site was also consistent with other reports.^{8,9} While snake bite is observed in all age groups, the high risk group (44%) are in aged 5-14 years. This shows

Table 1: Showing important characteristics associated with Snake bite

Parameters	Number of patients (%) N = 5737
Sex	
Male	4617 (80.47%)
Female	1120 (19.52%)
Age	
5 -14 years	2529 (44.18%)
15-24 years	1000 (17.43%)
25-34 years	946 (16.49%)
>35 years	1262 (21.99%)
Types of snakes	
Cobra	3270 (56.99%)
Krait & Vipers	2008 (35.0%)
Unidentified	459 (8.0%)
Case reported/ time period	
24 hrs	733 (12.78%)
48-72 hrs	5004 (87.22%)
Number of bites	
Single	5278 (91.99%)
Multiple	459 (8.0%)
Area involved	
Lower legs	3442 (69.99%)
Upper arms	1663 (28.99%)
Feet	632 (11.02%)

the pattern of snake bite in rural areas of Sindh is not different from other parts of the developing countries⁷.

Farming is the main occupation in the study area where they barefoot while ploughing their fields, which makes them prone to snake-bites. The dwellings, fields and forests and the resting places of snake include tall grass or brush, rocky areas, fallen logs, bluffs, swamps, marshes, and deep holes in the ground are predispose to frequent contact of humans and snakes. The predominance of male victims suggests a special risk of outdoor activity men do in rural areas. Of 5737 cases 81% victims were male. The sex ratio seems almost uniform all over with males being affected twice or thrice as commonly as females^{5,10}.

In study area bites are maximal in lower extremities commonly reported by the victims. Bites were maximal in lower limbs with 11% percent occurred in feet alone. It may probably due to the terrestrial and habits of snake, and

may possibly be attributed to the absence of an adequate protection during labor activity¹¹. Most patients identified the snake whereas few were unable to identify the snake species either because of ignorance or poor visibility in darkness. Many studies suggest that significant number of dead species should be brought to the hospital by the victims. They suggest that this will provide sound epidemiological data and also helps in the identification of species that are causing morbidity and mortality in a given area¹².

During this study, 87% of recipients of ASV had received treatment after 24 hours of bite. It has been reported that in most developing countries, up to 80% of individuals bitten by snakes first consult traditional practitioners before visiting a medical centre.¹³⁻¹⁵ The time interval between the incident and arrival at the hospital indicated a delay in treatment which may contribute to the related complications⁷. Patients who arrived late had higher severity scores, poor outcome and higher number of complications like renal failure, breathing difficulty, and cellulitis. In Pakistan there is shortage of medical facilities in rural area which may also be the cause of delayed consultation so more health centers throughout the country need to be developed for the management of this public health problem.¹⁶

CONCLUSION

It is concluded that the pattern of envenoming varies within the Province, suggesting that different species of snake may be responsible for bites in different areas. So knowledge of risk factor and complications of snake bite in rural people is important. It may

provide health providers and seekers important evidence regarding preventive interventions.

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