Review Article

Epidemiological study of snake bite cases in Government General Hospital, Guntur.

C. Vasavi and P. Mohana Rao
Department of General Medicine,
Guntur Medical College & Government General Hospital, Guntur, India

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ABSTRACT

Introduction: India is estimated to have the highest snakebite mortality in the world. World Health Organization (WHO) estimates place the number of bites to be 83,000 per annum with 11,000 deaths. Material & Methods: It was a hospital based retrospective study done in Government General Hospital, Guntur. Retrospective analysis was done from the case records over the past 1 year from January 2014 to December 2014. A pre designed, pre tested and structured questionnaire was used to collect information. Information regarding demographic characteristics like age, sex, time of bite and morbidity & mortality data was collected from the case sheets. Data was entered in Microsoft Excel 2007 and analysis done by using SPSS version 17. Data was presented in percentages and proportions. Results: A total of 93 snake bite case records were available in the study period. Among them, 68 (73.1%) were males and 25 (26.9%) were females. Mean age was found to be 28±2.5 years. Majority of the snake bite cases were recorded during the months of June to October. Snake bite cases occurred mostly in the lower limbs (45%), and in hands & arms (31%). only about 13% of the snake bite cases reached health care unit within 1 hour of bite.

Keywords: Snake bite, hospital, retrospective, case sheets

INTRODUCTION

Snake bite is a common life-threatening condition in many tropical countries; farmers, hunters, and rice pickers are at particular risk and prompt medical treatment is vital.[1] In India, the most important species are cobras (Naja naja, N. oxiana, N. kaouthia), common krait (Bungarus caeruleus), Russell's viper (Daboia russelii), and E. carinatus.[2] Worldwide, of the estimated 5 million people bitten by snakes each year, about 1,25,000 die.[3] More than 2,00,000 cases of snake bite are reported in India each year and 35,000–50,000 of them have turned out to be fatal. [3] Morbidity is also significant and there seems to have been little improvement in reducing the fatalities over the years in spite of now having good supplies of polyvalent anti-snake venom (ASV) available in all population centers. The major reason for high mortality rate (about 5% to 10% of all those reporting bites) is the delay in getting the victim to a well-equipped casualty treatment facility fast enough. [3] Snake
Epidemiological study of snake bite cases in Government General Hospital, Guntur.

bite, an important cause of death in rural patients in developing countries, is a neglected public health problem.

Most of the fatalities are due to the victim not reaching the hospital in time where definite treatment can be administered. In addition community is also not well informed about the occupational risks and simple measures which can prevent the bite. It continues to adopt harmful first aid practices such as tourniquets, cutting and suction, etc. 

Epidemiological studies related to snake bites are few in India and the present study has been done with an objective of determining the socio demographic profile of snake bites cases and to estimate the snake bite related epidemiology, clinical characteristics, severity and outcome.

MATERIAL & METHODS:
The present study was a hospital based retrospective study done in Government General Hospital, Guntur. Retrospective analysis was done from the case records over the past 1 year from January 2014 to December 2014. A pre designed, pre tested and structured questionnaire was used to collect information from the case records. Detailed information was collected regarding demographic and epidemiologic parameters such as age, sex, residence, occupation, site of bite and place of bite, type of snake, time interval between snake bite and receiving medical treatment (particularly ante-snake venom). Information was also collected regarding the morbidity and mortality from the case records. Case records which were incomplete or not filled properly were excluded from the study. The collected information was compiled and entered in Microsoft Excel 2007. Statistical analysis was done by using SPSS version 17 software. Data was presented in percentages and proportions. Chi square test was applied to find out any significant associations with p value <0.05 considered statistical significant.

RESULTS:
A total of 93 snake bite case records were available in the study period. Among them, 68 (73.1%) were males and 25 (26.9%) were females. Age wise distribution of the snake bite cases found that 43.5% (40) were in the age group of 15-25 years followed by 25-35 years age group (24.3%). Mean age was found to be 28±2.5 years.

With regards to occupation, 42% were labourers, 12% were farmers and 46% were in other occupations like government servants, students, housewives etc.

Season: Majority of the snake bite cases were recorded during the months of June to October which happens to be the monsoon season.

Site of bite: Snake bite cases occurred mostly in the lower limbs (45%), and in hands & arms (31%). The other parts of the body included trunk (11%), face (7%) and multiple sites (6%). The incidence of cases was observed in 56 (60%) during day time and 37 (40%). Majority of the cases were from rural area (63.5%) and only 36.5% were from urban area.

Regarding clinical manifestations, both hemorrhagic and neuroparalytic symptoms were commonly presented in major cases. Among hemorrhagic, bleeding from bite site (23%) & intravascular hemolysis (18%) were common. Among Neuroparalytic symptoms, ptosis, bulbar weakness and respiratory distress were common.

Time lag from bite to presentation: only about 13% of the snake bite cases reached health care unit within 1 hour of bite, 53% reached between 1-6 hours and 31% between 6-24 hours. About 3% of cases reached health care facility beyond 24 hors of time.

DISCUSSION:
Snake bite is a major public health problem in India. Present study observed that the overall number of snake bite cases admitted in Government General Hospital, Guntur during the study period of January 2014 to December 2014 were 93. Among them, 68 (73.1%) were males and 25 (26.9%) were females.
Mean age was found to be 28±2.5 years with majority being in the age group of 15-35 years which is the active age group involved in various outdoor activities, and so, is more prone for snake bites. Majority (42%) were labourers. Majority of the snake bite cases were recorded during the months of June to October which happens to be the monsoon season. This could be attributed to the flooding of rainwater in the dwelling places of snakes, thus causing the dislodgement consequently human population becomes accidental victims to the snake bite, further the situation is aggravated by the propinquity of rodents near the human habitants thus increasing the risk of snake bite.

Similar findings were observed in study by K.S. Dayananda et al (2013) study on admitted cases of snake bite in Bangalore. Study found that majority of snake bite cases were in the age group of 15 to 50 years and majority were males. Majority of snake bites occurred in rainy season.

Another study by Jarwani B [6] in Gujarat found that the incidence of snake bite was found to be 86% in the age group of 15-45 years. Male (74.2%) victims were more in number than female victims. Farmers and laborers were the main victims.

Majority of the cases were from rural area (63.5%). Snake bite cases occurred mostly in the lower limbs (45%), and in hands & arms (31%). Regarding clinical manifestations, both hemorrhagic and neuroparalytic symptoms were commonly presented in major cases. Only about 13% of the snake bite cases reached health care unit within 1 hour of bite.

Similar results were obtained in studies done by General Brunda and RB. Sashidhar [7], PLD. Srilahari et al[8], K Sam et al[9], Viravan C et al[10], Majumder D et al[11].

CONCLUSIONS:
In the present study, majority of the snake bite cases have occurred in the age group of 15-45 years age groups and more among males. Considering time lag has been observed between the time of bite and to reach hospital which has to be addressed by community mobilization and awareness generation among people.

Figures and tables: Figure 1: Seasonal variation of the snake bite cases

REFERENCE:


