Abstract:

Estimated deaths due to snake bites are more than 46,000 annually in India. Ninety-seven percent bites occur in rural areas. Data on snake bite from north-east india is negligible. This study describes 3 years profile of snake bite patients from September 2014 to October 2016 at Narayana Superspeciality Hospital, Guwahati.

Introduction:

Seventy five patients were enrolled in the study. The peak incidence (64%) of snake bite occurred in June to September period (in the monsoon season). 84 % of the bites were non poisonous in nature. In majority of the cases (65.33%) bite mark was present. Majority of the bites were in lower limbs (61.33%) followed by upper limbs (28%). Majority (46.66%) of the patients presented within 1 to 2 hours to the hospital, overall 94.66% of the patients presented within 5 hours of alleged snake bite. 22.66% of the patients had received some form of nonmedical treatment locally before presenting to this hospital. 12% received Anti snake venom at this hospital. No form of ASV associated complication was documented. There was no in hospital mortality.

Context:

Snake bite is a major public health problem in India. According to the “million death” study, the estimated annual death due to snake bite in the year 2001–2003 ranged from 40,900 to 50,900 with the mortality rate being higher in the rural areas (4.8–6.0/100,000). Bihar had the third highest annual snake bite related deaths (4500 annually). At the same time, the Indian Government’s official figure shows national death rate below 2000 deaths/year. Thus, there is remarkable under-reporting of the snake bite related deaths.[1] There is a paucity of data on snake bite and related events, the cost of care in the snake bite management despite being a major public health problem in India.

Of the four medically important poisonous families of snakes (*Elapidae, Viperidae, Atractaspidinae, Colubridae*), the *Viperidae* (viper) and the *Elapidae* (Cobra and common Krait) remain the most common species of snakes responsible for most of the envenomation in Indian subcontinent

Aim:

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We conducted this retrospective descriptive study in a tertiary care hospital in Kamrup district of Assam to describe the various epidemiological, clinical features, outcome related to snake bite over a period from 2014 to 2016.

Population:

All the patients (irrespective of age) presented with the alleged history of any bites between the year 2014 to 2016 were screened from the emergency register. The patients who received the discharge diagnosis of “snake bite” based on the documentation of fang marks at the alleged site of envenomation with or without oozing of the blood as confirmed by the attending physician were enrolled in the study. The patients not fulfilling the above criteria or those with confirmed bite by any other organism (e.g., lizard) were excluded.

Materiel and Method:

Institutional review board/ Ethics committee clearance with wavier of consent: Since this was a retrospective study and did not involve the disclosure of any individual patient identity, the consent was waived. All the patients (irrespective of age) presented with the alleged history of any bites between the year 2014 to 2016 were screened from the emergency register.

Results:

Epidemiological profile:

Demographic details and trend analysis : from September 2014 to October 2016, a total of seventy five patients were enrolled in this study. 60% of the patients were males (45) and the rest female (30).

Seasonal variation of the snake envenomation cases over the 3-years period: the peak incidence of the snake bite occurred around the month of June to September which corresponds to monsoon season.

District-wise distribution and delay in presentation of the cases

Narayana Superspeciality Hospital, Guwahati is situated in the district of Kamrup of Assam. Of the total patients 55(73.33%) of the patients were from kamrup district and the rest from adjacent districts.

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Clinical Profile:

Site of bite : The distribution of site of bite was was available for 67 patients. The most common site being lower limbs (61.33%) followed by upper limbs (21%). The bite in foot and leg was primarily due to accidental encounter with the snake during farming.

Anti-snake venom treatment: The data on doses of ASV were available for 9 patients. 5 patients received < 5 vials of ASV, while 4 patients 5-10 vials.

Outcome : Of the 75 patients 9 patients (12%) were treated with ASV. None expired. No case of anaphylaxis to ASV was noted among the recipients.

Discussion:

Snake bite is a major public health hazard and neglected tropical disease in India. Most of the snake bite cases occur in the rural areas and in the monsoon months from June to September. The estimated annual death due to snake bite in India is nearly 50,000 persons. The data on the true burden of the disease, role of polyvalent ASV, incident of ASV anaphylaxis, and treatment outcome from rural set up are scarce. As per the national mortality survey in 2001–2003, approximately 4,500 deaths occur annually in the state of Bihar and ranks third among snake bite related deaths in India. Despite this, there has been a paucity of data from this region.

This is the first large descriptive study on the clinico-epidemiological profile and the treatment outcome of the snake bite cases from a tertiary care center of assam, India. On analyzing the seasonal variability of the snake bite cases, we found that more than 64% of the cases occur during the monsoon months (june to September). The interesting outcome of this study was that most of the bite were of non poisonous snakes. In case of poisonous bites the severity of poisoning was mild. There was no major anaphylactic reaction to Anti snake venom. The outcome of all the patients was good. Presentation to a medical centre was early. The most common site of the bites were in lower limbs .

We intend to continue this study, follow up cases will be published with more details.

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