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Original Research Article

A prospective study of clinical manifestations of snake bite in government general hospital

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ABSTRACT

Background: Snake bite is an occupational and rural hazard because India has always been a land of exotic snakes. Although full burden of human suffering attributable to snake bite remains obscure, hundreds of thousands of people are known to be envenomed and tens of thousands are killed or maimed by snakes every year. This study is aimed at studying the clinical manifestations in snake bite at government general hospital.
Methods: This Prospective Observational study was done from March 2019 to August 2019 in Government General Hospital Nalgonda. A total of 60 cases male and female admitted with snake bite were studied based on inclusion and exclusion criteria. All patients were done routine investigations, ECG was done to rule out cardiac anomalies. Patients below 12 years, pregnant women and patients with previous heart ailments were excluded from the study. The study was carried out in all patients fulfilling the inclusion and exclusion criteria.
Results: A total of 60 patients 35 females and 25 males presented during the study period. Most of the patients presented with pain at the site 40(66%), Nausea 30(50%), Swelling 25(42%), Paraesthesia 25(42%), Bleeding 15(25%), Ptosis 15(25%), Sweating 10(17%), Cellulitis 10(17%) and dyspnoea 5(9%). Among the ECG manifestations- Tachycardia- 30(50%), Ischaemia 5(9%), Sinus arrythmia 2(4%), Myocardial Infarction-0.
Conclusions: It was Observed from the study that the pt. had more of Haemolytic presentation than neuroparalytic presentation. Pain at the site was the most common presentation followed by nausea. Some patients developed neuroparalytic symptoms like cellulitis, and paraesthesia. Further it was observed that timely shifting to the Hospital and administration of Anti-Snake venom prevented major manifestations in the patients.

Keywords: Bleeding, Cellulitis, Ischaemia, Nausea, Paraesthesia, Tachycardia

INTRODUCTION

Snake bite is a common and frequently devastating environmental and occupational disease, especially in rural areas of tropical developing countries. Its public health importance has largely been ignored by medical science. Snake venoms are rich in protein and peptide toxins that have specificity for a wide range of tissue receptors, making them clinically challenging and scientifically fascinating especially for drug design. In Indian subcontinent over 300 species of snake are present out of which the common poisonous snakes are Cobra, Russels Viper, Saw scaled Viper and Krait.[1] Word mortality from snake is estimated as 50,000 to 1,00,000 annually (Mc Namee 2001) and the greatest member of reported snake bite death occurring in Indian subcontinent is 10,000 to 15,000 annually.[2] Throughout the world snake bites remain life threatening injuries.[3-6] Sometimes requiring intensive care.[7] In 2009 WHO added snake bites to the list of neglected tropical diseases, which includes dengue hemorrhagic fever, cholera and Japanese encephalitis. The mortality

associated with snake bite is much greater than that of other neglected typically diseases.[3] Snake venom is a highly modified saliva and contains zootoxins that facilitate the immobilization and digestion of prey and defence against threats.[8] It is injected by unique fangs after a bite, and some species are also able to split their venom.[9] Snake toxins vary greatly in their function. The two broad classes of toxins found in male venoms are neurotoxins and haemotoxins. The different types of venom act on the body differently, Proteolytic venom dismantles the molecular surrounding, including the bite; Haemotoxic venom act on the heart and cardiac system; Neurotoxic venom act on the nervous system and brain; Cytotoxic venom has a localised action at the site of bite. Neurotoxin are found in Elapids and haemotoxins are found in vipers.

METHODS

The present Prospective observation study was done in Department of general medicine in Government General Hospital Nalgonda from March 2019 to August 2019. A total of 60 Snake bite cases were Admitted during the period. After Obtaining Consent, data was collected on predesigned, pretested and structured Questionnaire by interviewing the study subjects who were hospitalized during the study period. A detailed information regarding demographic and epidemiological parameters such as age, sex, residence, site of bite and place of bite was obtained along with the complaints of the patients after the bite like any pain, tingling and numbness, dyspnea etc. patients were done routine investigations. ECG was done. patients were administered ASV depending on patient symptoms and were discharged in stable condition. patients excluded were patients with age <12 years, pregnant women and patients with previous Diabetes, Hypertension and heart ailments. Patients included were with age >12 yrs, all patients bit by poisonous snakes and brought within hours of bite. The statistical software SPASS was used to analyze the data and Microsoft word and excel have been used to generate graph, figure etc.

RESULTS

Of all the patients 35(58%) were females and 25(42%) were males with female preponderance. The patients admitted were bitten more on the lower extremities 50(83%) than upper extremities 10(17%). The patients were assessed in different age group with age preponderance in 31-50 years group 30(50%).The patients admitted had mostly hemolytic manifestations 40(67%) than neuroparalytic manifestation 20(33%). Pt admitted complained of local pain 40(67%), Nausea 30(50%), Paresthesia 25(42%), Swelling 25(42%), bleeding 15(25%), ptosis 15(25%), Cellulitis 10(17%), dyspnea 5(9%), Sweating 10(17%).

Pt admitted were done ECG to assess cardiac abnormalities. Most of them had tachycardia 30(50%), ischemia 5(9%), infarction 0, bradycardia 10(17%), sinus arrythmia 2(4%).

There is a depiction of female preponderance with females 35 *vs* males 25 in the ratio M:F (5:7) (Figure 1).

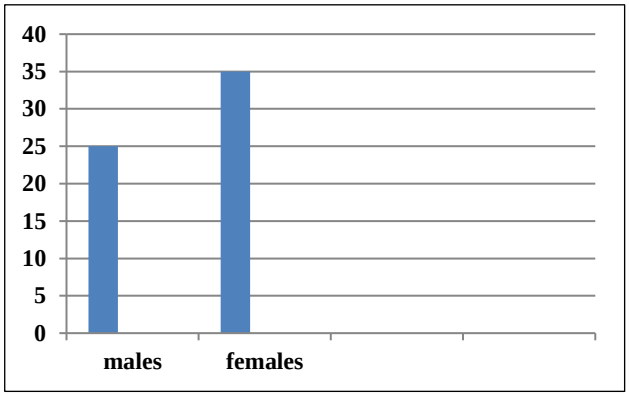

Figure 1: Gender distribution.

The patients bitten by snake are more in the age group 31-50 yrs. followed by patients in the age group 12-30 yrs (Figure 2).

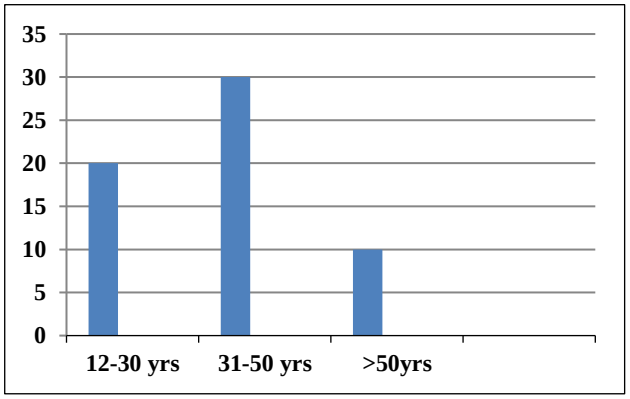

Figure 2: Age group.

The patients bitten on the lower extremity are about 50(83%) more than those bitten on upper extremity about 10(17%) (Figure 3).

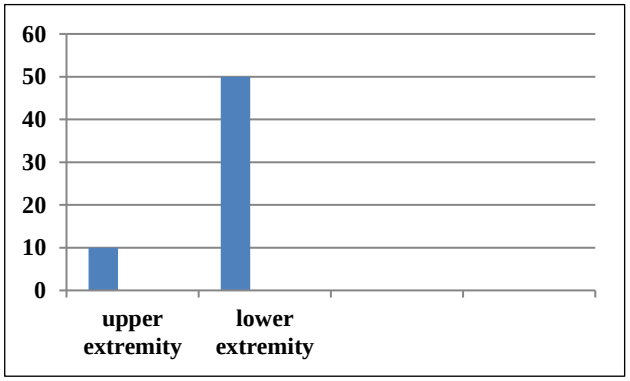

Figure 3: Extremity distribution.

The patients bitten by snakes and having hemolytic symptoms are about 40(67%) compared to patients having neuroparalytic symptoms about 20(33%) (Figure 4).

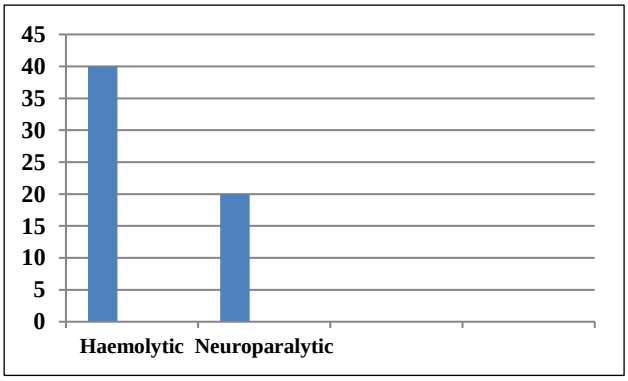

Figure 4: Type of bite.

In the symptom distribution shows that patients complained of pain more than any other symptom (Figure 5).

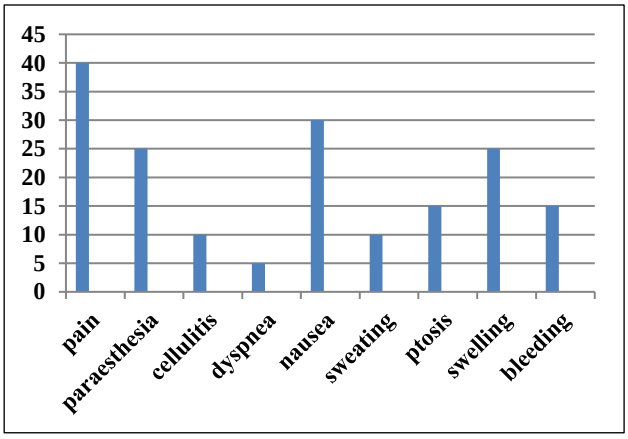

Figure 5: Symptoms distribution.

The ECG manifestations patients had tachycardia about 30 patients. Other parameters were on the lesser side (Figure 6).

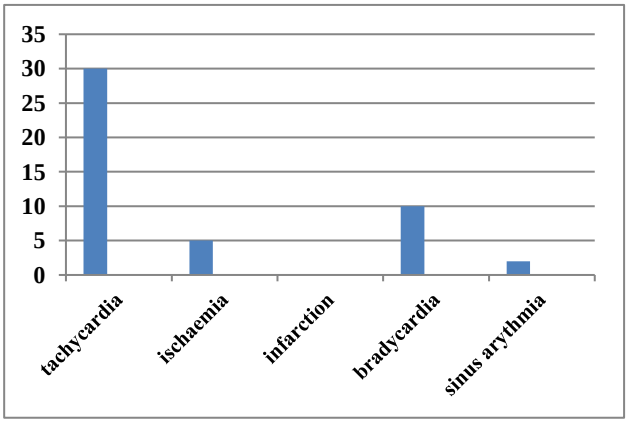

Figure 6: ECG manifestations.

DISCUSSION

In all, 60 patients were studied out of the poisonous snake bite admitted 40(67%) were of hemolytic and 20(33%) were neuroparalytic. In the present study the female preponderance was more 35 compared to males 25 in the ratio (5:7). This is in contrast to Ahuja and Singh in 1954 reported the ratio as 4:1(M:F) Bhat et al in 1974 reported the incidence as 7:3(M:F).[10,11] In our study maximum number of patients written were in the age group 31-50 30(50%); next in the order were in the age group 12-30 20(33%); 10(17%) patients were in age group >50 years. the observation was in contrast to the study of Russell et al, 1979 and hutchisan et al, (1929).[12] In our study bites on the lower extremities were 50(83%) and upper extremities were 10(17%). Reid mentions that most of the bites in tropical countries are on lower extremities because victims are bitten by treading on or near the snake, while in non-tropical countries most bites are on hands and fingers because the victim deliberately handles the snake.[13] Bleeding time and clotting time was raised in all patients of vasculotoxin snake bite. Similar to Saini et al.[14]

CONCLUSION

It was observed from the study that pain was common presentation in the snake bites. Further in the study mortality was less and complications were less due to timely visit to the hospital and treatment given at the right time. Further by proper awareness of the habitat in which snake dwells and to maintain clean environment can help to tackle this deadly hazard.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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