A RETROSPECTIVE STUDY OF EPIDEMIOLOGY CLINICAL COURSE AND TREATMENT OUTCOME OF SCORPION STING IN PAEDIATRIC AGE GROUP

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ABSTRACT

INTRODUCTION

We know that habitat of scorpion is warm, and dry region. They inhibit commonly under logs, debris, paddy husk, sugar cane fields, and Coconut and banana plantations. (1) Konaseema region of Andhra Pradesh is famous for paddy, banana and coconut which are good habitat for scorpion. It is a retrospective study in which all the date of scorpion sting cases admitted in Konaseema institute of medical science and general hospital the only referral hospital in Konaseema region in last 3 years that is from Oct 2012 to Nov 2015 was collected. Mesobuthus tamulus is common in Andhra Pradesh. With the combined use of SAV and prazosin mortality has been reduced. But the awareness about the scorpion to the parent and its habitat will prevent the sting.

KEYWORDS

Scorpion Sting, Epidemiology, Treatment Outcome.

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INTRODUCTION: We know that habitat of scorpion is warm, and dry region. They inhibit commonly under logs, debris, paddy husk, sugar cane fields, and coconut and banana plantations.(1) Konaseema region of Andhra Pradesh is famous for paddy, banana and coconut which are good habitat for scorpion. So scorpion bite used to occur in children in these regions. Its incidence used to be high during agriculture season. (2,3) There are various species of scorpion found in world wide. In India only two species Mesobuthus (red) and palamnaems (black) is poisonous scorpion. Mesobuthus tumulus or Indian red scorpion is the most lethal scorpion species in India.

Fig. 1

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The severity of red scorpion bite is greater in children and death rate is also higher.(4,5) scorpion venoms are species specific complex mixture of short neurotoxic proteins. Alpha receptor stimulation plays a major role in the clinical manifestation of envenomation. But there is complex stimulation of other receptors and channel resulting in clinical manifestation from intense local pain to shock and multi organ failure and death. (6,7,8)

MATERIAL AND METHOD: It is a retrospective study in which all the date of scorpion sting cases admitted in Konaseema institute of medical science and general hospital the only referral hospital in Konaseema region in last 3 years that is from Oct 2012 to Nov 2015 was collected. Detail of the patient was collected from bed head ticket as it contains all the information. All the information about the patient clinical presentation, outcome, site of bite, season, region from where patient belong were obtained, in separate Performa. Before start of this study permission from competent authority was obtained in written form. Cases where scorpion was seen and identified those cases only were selected for study.

RESULT:

Sex	Male Female	18(81.8%) 4(18.8%)
Age in years	0-5 5-10 10-15	2(9%) 10(44.4%) 10(44.4%)
Locality	Urban Village	4(18.8%) 18(81.8%)
Month of bite	Jan- Apr May to Aug Sep to Dec	2(9%) 16(72.7%) 4(18.1%)

Site Of Bite	Upper Limb Lower Limb Others	8(33.6%) 12(54.5%) 2(9%)
Sting Mark	Present Absent	20(91%) 2(9%)

Table 1: Age sex and epidemiological characteristics of scorpion sting to children (No=22)

Total 22 patients between age 0-15 Years were admitted with scorpion sting. Out of 22 patients, 18 were male and 4 female, two patient were between age group 0-5yrs, ten patients were between 5 to10yrs and rest ten were between 10 to 15yrs of age. Eighteen patients were from village area only four were from urban area. Maximum scorpion bite incidences were from May to august month that is summer month and environment used to hot and humid. 16 patients have sting in lower limb, 8 patients have sting in upper limb. Two patients have sing in other part of body. Twenty patients have sting mark on sting site.

Local Pain	20(91%)
Sweating	12(54.5%)
Anxiety	10(44.5%)
Vomiting	10(44.5%)
Fever	5(22.7%)
Cold Extremities	418.2%)

Table 2: Clinical presentation of children string by scorpion

From Table 2 it is clear that 91% of the patient were presented with local pain 54.5% of the patient having sweating, 72% patient having anxiety. 45.4% patients were presented with vomiting and 22.7% having fever.

Tachycardia	18(81.8%)
Hypertension	12(54.5%)
Arrhythmia	02(9%)

Table 3: CVS manifestation

Regarding cardio vascular presentation 81.8% having tachycardia and 54.5% of the patient having hypertension but 10% of the patient have arrhythmias.

27.2% presented with dyspnoea and 14% of the patient having pulmonary oedema, this was respiratory presentation.

Dyspnoea	6
Pulmonary Edema	3

Table 4: Respiratory system manifestation

46% patient having restlessness but convulsion was found only in one patient. Out of 22 patients there was no incidence of death but 28% of the patients have duration of stay more than 5 days, rest having less than 5 days.

Restlessness	10(45.5%)
Convulsion	1(4.5%)
COMA	0

Table 5: CNS manifestation

Recovered	22(100%)
Deaths	NIL

Table 6: Outcome of the treatment and duration of stay

1 TO 5 Days	16(72.7%)
5 -10 Days	06(27.2%)
> 10 Days	NIL

Table 7: Duration of stay in hospital

DISCUSSION: The lethality of scorpion venom varies with species. It is a cocktail of several low molecular weight basic proteins, neurotoxins, nucleotides, amino acids, oligopeptides, cardiotoxins, nephrotoxins, haemolytic toxins, phosphodiesterase, phospholipase A, hyaluronidase, Acetylcholinesterase, glycosaminoglycan, histamine, serotonin. Multiple toxin may present in single species of scorpion capable to produce a potent synergic effect in victim. [9,10,11]

Out of 22 patients, 81.8% were male 89% of the patient were above 5yrs of age 82% were from village background and frequency of lower limb bite was more than upper limb that is 55% and 33% respectively. Which is similar to of her studies. [12,13,14] Our study also showed that majority of scorpion occurs between may to sept which is similar to other literature. [15,16]

Regarding clinical presentation most of the patient presented with local pain, sweating, anxiety, vomiting that is 91%, 54%, 72% and 45.4% respectively which is similar to other studies. [16,17,18]

Systemic manifestations, regarding cardio vascular 82% have tachycardia, 54.5% presented with hypertension and 10% of patient having arrhythmia.

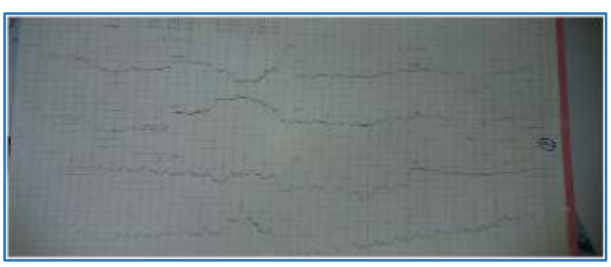

Fig. 2

27% of the patient presented with dyspnoea and 13% of pulmonary oedema, regarding numerological presentation restlessness was common than convulsion with was 4.5% this finding is similar to the finding of other literature. [2,3,16,17,18] Because of good intensive care factitious the death was nil in our hospital, during last 3yrs.

CONCLUSION: Since the advent of scorpion anti venom, vasodilators and intensive care facilities, deaths are very rare now a days. Since 2002, non-specific F(ab)2 SAV has been available for clinical use in India. Mesobuthus tamulus is common in Andhra Pradesh. With the combined use of SAV and prazosin mortality has been reduced. But the awareness about the scorpion to the parent and its habitat will prevent the sting.

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