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A Study on the Clinical Profile of Scorpion Sting Envenomation in Children in A Tertiary Care Centre

Authors

Dr Wakil Paswan¹, Dr Bankey Behari Singh²

¹Assistant Prof. Department of Pediatrics A.N.M.M. College Gaya ²Associate Prof. Department of Pediatrics A.N.M.M. College Gaya

ABSTRACT

Background: Scorpion sting envenomation is a life threatening emergency. The main objective is to study the clinical profile and outcome of scorpion sting envenomation in children.

Methods: This retrospective study analyzed case records of children under 15 years of age who admitted with scorpion sting envenomation from April 2016 to March 2017. Case records were analyzed for age and sex of the patient; site of scorpion sting, time lapsed from the scorpion sting to hospitalization, season, clinical manifestations, duration of hospital stay and outcome.

Results: During the study period, 205 children were admitted for scorpion sting. Majority of the children are from rural area, male sex, and stung in lower limb, mostly during nights of summer, Local pain at the site of sting and diaphoresis are the commonest symptoms. (52.6%) children had class II severity. Five patients died, complicated with pulmonary edema.

Conclusions: *Prompt referral and early therapy with prazocin is life saving for scorpion sting envenomation in children.*

Keywords: Scorpion sting envenomation, Pulmonary edema, Prazocin.

INTRODUCTION

Scorpion sting envenomation is a life threatening emergency in tropical and subtropical countries with a potential of severe and often fatal clinical manifestations among children ⁽¹⁻³⁾. In india, only two species, Mesobuthus (red) and Palamnaeus (black), are poisonous scorpion. Mesobuthus tamulus (Indian red scorpion) is the most lethal scorpion species. These are found abundantly in western Maharashtra, northern Karnataka, Bihar Andhra Pradesh, Saurashtra and Tamilnadu⁽⁴⁾. The manifestations clinical of scorpion sting envenomation are due to a massive release of sympathetic and parasympathetic neurotransmitters ⁽⁵⁻⁶⁾. Present study was aimed to study the

clinical profile of scorpion sting envenomation and outcome in children.

METHODS

This retrospective study analyzed the clinical profile of children under 15 years of age who were admitted to the department of Pediatrics, A.N.M.M College Hospital Gaya Bihar, during April 2016 to March 2017.

Data were extracted from the case records of children admitted with positive history of scorpion sting, with scorpion being seen or killed by relatives or bystanders. Data recorded for each case included: age and sex of the patient, site of scorpion sting, time lapsed from the Scorpion

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sting to hospitalization, season, clinical manifestations, duration of hospital, stay and outcome.

The severity of envenomation was classified according to Abroug's classification as follows.

Severity class I: Local symptoms including local pain, erythema and paresthesia restricted to the sting area;

Severity class II: Shivering, cool extremities, excessive sweating, nausea and vomiting, hypertension, and priapism.

Severity class III: Cardiovascular, respiratory or neurological symptoms such as cardiogenic shock, pulmonary edema, altered consciousness and convulsive crisis.

All cases were treated according to treatment protocol of the institute. Patients with cold extremities, sweating, and tachycardia were treated with oral prazocin. Patients with features of shock and myocarditis were treated with prazocin plus dobutamine. All patients were monitored till the signs of recovery.

RESULTS

A Total of 205 children, 133(64.87%) Male and 72 (35.13%) Female were admitted with scorpion sting during the Study Period. 97 (47%) children belonged to the 0-5 years, 86 (42%) to the 5-10 years and 22 (11%) to 10-15 years of age group. 120 (58.5%) Patient were from rural area, where 85 (41.4%) were from urban area. The Most common site of scorpion sting was Lower Limb (n = 98, 47.8%) Followed by upper limb (n=62, 30%) , trunk (n=38, 18.5%) and face and Scalp (n=7,3.5%)

The Local Symptom noted were Local Pain (n=185,90.2%) diaphoresis (134, 65%) Vomiting (105, 51%), Restlessness (118,57%). The systemic sign noted were shock (140, 68%) Tachycardia (128, 62%), Hypotension (121, 59%) were noted. With regard to severity 70 (34%) , 108 (52.6%) and 27 (13%) Patients were classified into classes I, II and III respectively. The duration & hospitalization stay For 3 days. The duration was longer in younger children and the patients who reported to the hospital very late. 186 (90.73%)

Patient were discharged after complete recovery and 14 (6.8%) had cardiac dysfunction, 5 (2.4%) died.

Table 1 Clinical profile of scorpion envenomationN=205

Clinical profile of scorpion		
enveomation $n=205$		
Age distribution		
Age	No	Percentage
0-5 Years	97	47%
5-10 Years	86	42%
10-15 Years	22	11%
Sex	No	Percentage
Male	133	64.87%
Female	72	35.13%
Site of sting		
Site	No	Percentage
Trunk	38	18.5%
Face and scalp	7	3.5%
Upper limb	62	30%
Lower limb	98	47.8%
Symptoms distribution	70	17.070
Symptoms distribution	No	Percentage
Pain at site of sting	185	90.2%
Salivation	70	34%
Diaphoresis	134	65%
Vomiting	105	51%
Swelling	97	47%
Dyspnea	85	41%
Pain abdomen	8	41%
Fever	8	4/0
Restlessness	118	57%
Altered sensorium	110	57% 6%
Distribution of clinical signs	No	Percentage
Shock	140	68%
Tachycardia	128	62%
Bradycardia	9	1%
Cyanosis	21	10%
Tachypnea	52	25%
Prionism	26	13%
Hyportonsion	20	1370 304
Hypertension	121	50%
Altered sensorium	121	<u> </u>
Clinical severity distribution	12	9%
Severity class	No of cost	Dereenteet
Class I	TNO. OF Cases	2 40/
	/0	54%
	108	32.0%
	21	13%
Out Come	100	00.720/
Complifie recovery	186	90.73%
Cardiac dystunction	14	6.8%
Death	5	2.4%
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DISCUSSION

Scorpion sting envenomation is one of the common medical emergencies among children, especially in rural areas. In the present study, maximum number of scorpion sting among children has occurred in the age group of 0-5 years, whereas Pol R et al reported 2-7 years as most involved group.⁽⁶⁾

Boys were stung more often girls. Similar findings were observed by other studies ⁽⁷⁻⁸⁾. This male predominance of scorpion sting may be due to higher inquisitive nature of boys and boys go outside more commonly than girls, especially during night.

There is higher incidence of scorpion sting in rural areas. This may be attributed to poor socioeconomic status (children walking barefoot). The incidence of scorpion sting is more during summer than other season. Majority of the sting occurred during 6 pm to 12 am. This might be because of scorpions are active at night.

Majority of the children the site of scorpion sting was lower limbs, which was similar to Pol et al, Bosnak et al and Farhly et al's observations. ^(7,9,10) The local symptom of scorpion sting include pain at the site of (most common), followed by Diaphoresis, vomiting, swelling, The common systemic signs include cool extremities, sweating, and tachycardia. Cold extremities were reported in majority of patients in their studies by Bawaskar et at and Biswal et al ⁽¹¹⁾. Five cases died, complicated with pulmonary edema.

CONCLUSION

Scorpion sting envenomation is a common medical emergency among children. It is common in rural areas and among boys. The site of sting was predominantly in the lower limbs and during nights of summer season. Timely referral and early therapy with prazocin may be lifesaving.

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