

Severe Bark Scorpion Envenomation in Adults

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Introduction

- AAPCC data indicate there were 19,108 calls in 2011 regarding scorpion envenomation with the vast majority involving adults
- Threat of scorpion envenomation to pediatric patients is well known. Little information is available regarding severe envenomation in adults

Methods

- Retrospective study of adults (age > 18 years) presenting to a tertiary referral center with severe scorpion envenomation between January 1 2007 and March 3 2013
- Patients identified by a search of the hospital's electronic medical records for encounters containing ICD-9 code family "venomous animals and plants as the cause of poisoning and toxic reactions"
- Patients with grade III or IV scorpion envenomation for which medical records were available were included; descriptive statistical analysis was performed

Results

- 33 patients met inclusion criteria: 61% were female (20/33), average age was 40.7 (19-81) years
- Average time to healthcare facility was 142 (14-720) minutes
- Signs and symptoms are summarized in Table 1
- One patient had rhabdomyolysis (CK>1000 IU/L)
- One patient had fever (38.5 °C)
- The most frequently used agents to control symptoms were benzodiazepines 85% (29/33) and opioids 83% (28/33)
- Two patients intubated due to iatrogenic sedation

Results Continued

- Another patient developed CNS and respiratory depression from opioids and benzodiazepines necessitating 2 doses of naloxone and transfer to ICU
- Two patients were pregnant. One required admission and fetal monitoring; both had good outcomes
- Two patients required cardiac evaluation due to elevated troponin, chest pain, and pre-existing CAD
- 58% (19/33) were admitted to the hospital
- Average length of stay (LOS) was 28.3 (1.5-307) hours; 10 patients had LOS > 24 hrs and the following 4 had LOS >48 hrs:
 - **Case 1:** 38 yo with DM, asthma, HTN. Severe agitation, thrashing, shaking and jerking prompted treatment with diazepam and haloperidol. Intubated due to respiratory failure. Amphetamines on UDS. LOS 52 hrs.
 - **Case 2:** 65 yo with alcoholism. Developed paresthesias preventing ambulation, nystagmus, myoclonic jerks and hypertensive crisis (BP 209/107) with encephalopathy and rhabdomyolysis. LOS 60 hrs.
 - **Case 3:** 81 yo with HTN and atrial fibrillation. Developed paresthesias preventing ambulation, opsoclonus, chest pain. Old LBBB on EKG, Trop I .88 ng/mL, cardiac echo with acute systolic heart failure (EF 40%); stress test without acute ischemic injury, cath without significant coronary disease. LOS 104 hrs.
 - **Case 4:** 55 yo with cerebral palsy. Stung at care facility and transferred with medication record including methadone. Pain, tremor, tachycardia on presentation. Treated with midazolam and fentanyl and out-patient meds continued. As scorpion symptoms resolving, developed sudden respiratory failure and coma while on unmonitored unit leading to intubation, aspiration, and kidney injury. Wrong med list provided by care facility; patient not on methadone. LOS 307 hrs.

Table 1. Clinical Manifestations

Sign/Symptom	N= # of pts	% = N/33
Pain/paresthesias	31	94
Opsoclonus	27	82
Excessive motor activity	25	76
Visual disturbance	25	76
Hypertension	16	48
Difficulty ambulating	15	45
Hypersalivation	13	39
Tachycardia (HR>100 bpm)	12	36
Difficulty swallowing	8	24
Vomiting	5	15

Discussion/Conclusion

- Adults with severe scorpion envenomation often require overnight admission to control symptoms or to manage side effects of treatment
- Fever, aspiration and rhabdomyolysis were rare complications in this population
- Significant signs and symptoms of envenomation typically resolve within 24 hrs. However, 30% of this patient population required hospitalization for > 24 hrs
- Four patients had significantly prolonged length of stay (>48 hrs)
- This study suggests co-morbid or pre-existing conditions along with iatrogenic complications are common causes of increased length of stay in adults with severe scorpion envenomation

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