

BITES

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WASPS AND BEES



CLINICAL FEATURES

- Most common response is a transient local reaction
- Lymphangitis may develop even in the absence of infection
- **Anaphylaxis** : most reactions develop within the first 15min and nearby all occur within 6 hours.
- There is no correlation between systemic allergic reaction and the number of stings.
- The shorter the interval between the stings and the onset of symptoms, the more severe is the reaction.

- **Organ system effects** : renal and hepatic failure and disseminated intravascular coagulation can result from massive bee stings.
- Rhabdomyolysis occurs from direct venom toxicity.
- **Delayed reaction** : may appear 5 to 14 days after a sting, consist of serum sickness-like signs and symptoms. Fever, malasia, headache, urticaria, lymphadenopathy, polyarthrititis.

- **Unusual reactions** : infrequently can produces neurologic, cardiovascular and urologic syndromes, with signs of encephalaties, neuritis, vasculitis and nephrosis.
- Guillain barre syndrome has been reported.
- Definitive insect identification is unnecessary.

TREATMENT

- If the bee stinger is present in the wound, remove it.
- Immediate removal is important principle and the method of removal is irrelevant.
- Wash the sting site thoroughly with soap and water.
- For local reaction intermittent application of cold compress at the site.
- Administer NSAIDS and antihistamines.
- If edema is significant elevate rest of the affected limb.

Anaphylaxis treatment medications

Epinephrine is the first-line medication and should be given immediately at the first suspicion of an anaphylactic reaction.

Adult: 0.3 to 0.5 mg IM (1:1000 concentration) in anterolateral thigh every 5 to 10 minutes as necessary

Pediatric: 0.01 mg/kg IM (1:1000 concentration) in anterolateral thigh every 5 to 10 minutes as necessary

Alternatively, epinephrine (EpiPen, 0.3 mL; or EpiPen Jr, 0.15 mL) can be administered into anterolateral thigh

- If the patient is refractory to treatment despite repeated doses of epinephrine IM or has signs of cardiovascular compromise or collapse:
 - An epinephrine IV bolus and/or infusion should be instituted.
 - Initial dose; 100micrograms(0.1miligram) IV, given 5 to 10 min.

SCORPIONS



CLINICAL FEATURES

- Most stings cause localized pain at the bite site, and systemic toxicity occurs in < 10% of stings.
- The toxins with the most serious medical effects can open neuronal sodium channels and cause prolonged and excessive depolarization.
- Somatic and autonomic systems are affected.
- Infants and young children are at highest risk for severe systemic symptoms.
- Motor hyperactivity is nearly universal.

- Cardiovascular toxicity includes tachycardia, hypertension, pulmonary edema and cardiogenic shock.

DIAGNOSIS AND TREATMENT

- Diagnosis is clinical. Laboratory studies are needed in severe envenomation to identify organ system involvement.

Scorpion Sting Effects and Treatment

Clinical Effect	Pathophysiology	Treatment	Comments
Local effects only	Pain at sting site	Acetaminophen, NSAID, local lidocaine without epinephrine at sting site	
Dermatonecrosis over hours or days	Local necrosis, in 20% systemic features, myoglobinuria; similar to <i>Loxosceles</i> spider envenomation		<i>Habromys lepturus</i> of Iran
Tachycardia, hypertension, mydriasis	Excess catecholamines	Antivenom*; prazosin	
Agitation and anxiety	Neuromuscular agitation	Benzodiazepines	
Pulmonary edema	Catecholamine-induced cardiac injury, myocardial depression; cardiogenic shock	Antivenom*; nitroglycerin or prazosin [†] ; dobutamine [†] for cardiogenic shock	<i>Androctonus</i> , <i>Buthus</i> , <i>Mesobuthus</i> , and <i>Tityus</i> scorpions
Hypotension, bradycardia, salivation, sweating, abdominal pain, diarrhea, pancreatitis	Cholinergic effects	Atropine	<i>Tityus</i> species
Oculomotor abnormalities, uncoordinated neuromuscular activity, muscle spasms	Neuromuscular excitation	Antivenom*; benzodiazepines	<i>Centruroides</i> scorpions, also <i>Parabuthus</i> and <i>Tityus</i>
Multiorgan failure			Supportive care

*Role of antivenom not clear once systemic toxicity established, as antivenom binds toxin but does not reverse established injury.