EmergencyKT: Antivenom Administration

**Systemic Envenomation**
- Neurotoxic, Coagulopathic, Rhabdomyolysis, Persistent Hypotension
- Or with any Elapid Bite

**Progressive Local Envenomation**
- Worsening swelling, erythema, ecchymoses, pain, bullae, or necrosis

**Antivenom Indicated**

**Selection**
Verify Species: Jim Harrison @ KY Reptile Institute (606) 663-9160, Zoo, Aquarium, Correlate with clinical signs & symptoms
Verify Coverage & Availability: Antivenom Index @ Poison Control (1-800-222-1222) or Call AZ Poison Control (602-626-6016)
Select Antivenom with appropriate coverage that can be obtained quickest.

**Preparation**
1) Move patient to high acuity area (SRU) w/ Monitors
2) Airway Equipment at bedside (O2, Airways, Suction, BVM, RSI drugs)
3) Two IV Access Sites in the non-bitten extremity. If this is not possible PROXIMAL to Bite Site: Antivenom Access & Anaphylactic Management Access
4) Prepare Syringe with Epinephrine 0.5 mL 0.1% [1:1000] at bedside
5) Prepare & Dose Antivenom According to Drug Product Information (Reconstitution & Dilution)

**Premedication**
1) Volume Expansion 2L Crystalloid IVF (Peds: 20mL/kg)
2) Add Prophylactic Epinephrine 0.25mL of 0.1% [1:1000] SC (Peds: 0.01 ml/kg)
   If Risk of Anaphylaxis or Limited ED Staff & No Contraindication.
   Anaphylaxis Risk = Prior exposure to antisera, h/o atopia/anaphylaxis/horse or sheep allergy, use of non-fab antivenom
   Contraindications = CAD, Severe Hypertension

**Initial Control**
1) Initial Dosing & Administration per Drug Product Information
2) Slow Infusion Phase (10 minutes) & observe for Anaphylaxis (Hypotension, Wheezing, Urticaria)
3) Rapid Infusion Phase (Give the rest over 1-2 Hrs).

**Acute Reaction Therapy**
1) Clamp Antivenom IV Line
2) Treat for Anaphylaxis
   - Epinephrine
   - IVF
   - Diphenhydramine & Famotidine
   - Methylprednisolone
3) Further dilute Antivenom
4) Restart at slower rate

Anaphylaxis? No Yes

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EmergencyKT Antivenom Administration,

1. Scheduled Dosage Control & Evaluation

Assessment (Clinical & Labs) & Need for Repeat Dosing Every 6, 12, 18 hours.

Progression of Clinical/Lab evidence of Systemic/Local envenomation?

Yes

A

Repeat Dosage

Failure to achieve Initial Control after 3 Repeat Doses?

Yes

Consider Reasons for Failure
- Wrong Species ID/Coverage
- Inadequate Dosage
- Expired/Inactive Antivenin
- Delay in Administration
- Re-consider diagnosis

No

Supportive Care & Observation Disposition

Yes

Supportive Care & Observation Disposition

No

Consider Reasons for Failure

Yes

Supportive Care & Observation Disposition

No

Supportive Care & Observation Disposition

Literature Cited


1/22/08
<table>
<thead>
<tr>
<th>Antivenin</th>
<th>Antivenin (Crotalide) Polyvalent</th>
<th>Antivenin (Micrurus Fulvius)</th>
<th>Antivenin (King Cobra)</th>
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<tr>
<td><strong>SAIMR Polyvalent Snake Antivenom</strong></td>
<td>Equine-derived, liquid, three-year shelf life. 10 ml glass sealed ampoule. Initial dose: 20 ml Can be administered i.m. or i.v. (i.v. preferred). Cost: $100.00/vial</td>
<td><strong>Effective Against:</strong> Gaboon Viper, Jameson’s Mamba, Rhinoceros Viper, Monocellate Cobra, Puff adder <em>(Includes: Bitis arietans, Bitis gabonica, Bitis heraldica, Dendroaspis angusticeps, Dendroaspis jamesoni, Dendroaspis polylepis, Hemachatus haemachatus, <em>Naja</em> annulifera, <em>Naja</em> melanoleuca, <em>Naja</em> mossambica, <em>Naja</em> nivea)</em></td>
<td><strong>King Cobra Antivenin</strong> (Queen Saovabha Memorial) Equine-derived, lyophilized, 10 ml vials; five-year shelf life. Initial recommended dose: 20-40 ml i.v. Cost: $40.00/10 ml vial <strong>Effective Against</strong> King Cobra: <em>Ophiophagus hannah</em>,</td>
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<td><strong>Antivenin (Crotalide) Polyvalent (Wyeth Polyvalent)</strong></td>
<td>Equine-derived, lyophilized, 10 ml vial (reconstituted); five-year shelf life. Initial dose: 20-40 ml (mild), 50-90 ml (moderate), and 100-150+ ml (severe cases); IV only Cost: $821.09/vial <strong>Effective Against:</strong> All New World pit vipers as well as <em>Gloydius halys</em> of Korea and Japan <em>(Includes: Agkistrodon contortrix, Bothrops atrox, Crotalus adamanteus, Crotalus aquilus, Crotalus atrox, Crotalus durissus, Crotalus durissus terrificus)</em></td>
<td><strong>Effective Against:</strong> <em>Agkistrodon piscivorus</em> (Cottonmouth or Water Moccasin), <em>Crotalus adamanteus</em> (Eastern Diamondback rattlesnake), <em>Crotalus atrox</em> (Western Diamondback rattlesnake), <em>Crotalus scutulatus</em> (Mojave rattlesnake).</td>
<td><strong>Antivenin (Micrurus Fulvius)</strong> (Wyeth) Equine-derived, lyophilized, 10 ml vial (reconstituted); shelf life unclear. Initial recommended dose: 30-50 ml i.v. <strong>Effective Against:</strong> Micrurus fulvius (Texas coral snake) <strong>Reportedly effective against:</strong> Micrurus fulvius tenere (Texas coral snake) but will NOT neutralize the venom of the <em>Micruroides euryxanthus</em> (Arizona or Sonoran coral snake). <em>Pseudechis papuanus</em> Cost: $1,198.21/vial. Likely will no longer be available after 2008.</td>
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<tr>
<td><strong>Polyvalent Crotalid Antivenom (CroFab)</strong> (Protherics)</td>
<td>Ovine-based, lyophilized, 10 ml vials; 30-month shelf life. Initial recommended dose: 40-60 ml, i.v. Cost: $750.00/vial.</td>
<td><strong>Effective Against:</strong> <em>Agkistrodon piscivorus</em> ptonys (Cottonmouth or Water Moccasin), <em>Crotalus adamanteus</em> (Eastern Diamondback rattlesnake), <em>Crotalus atrox</em> (Western Diamondback rattlesnake), <em>Crotalus scutulatus</em> (Mojave rattlesnake),</td>
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