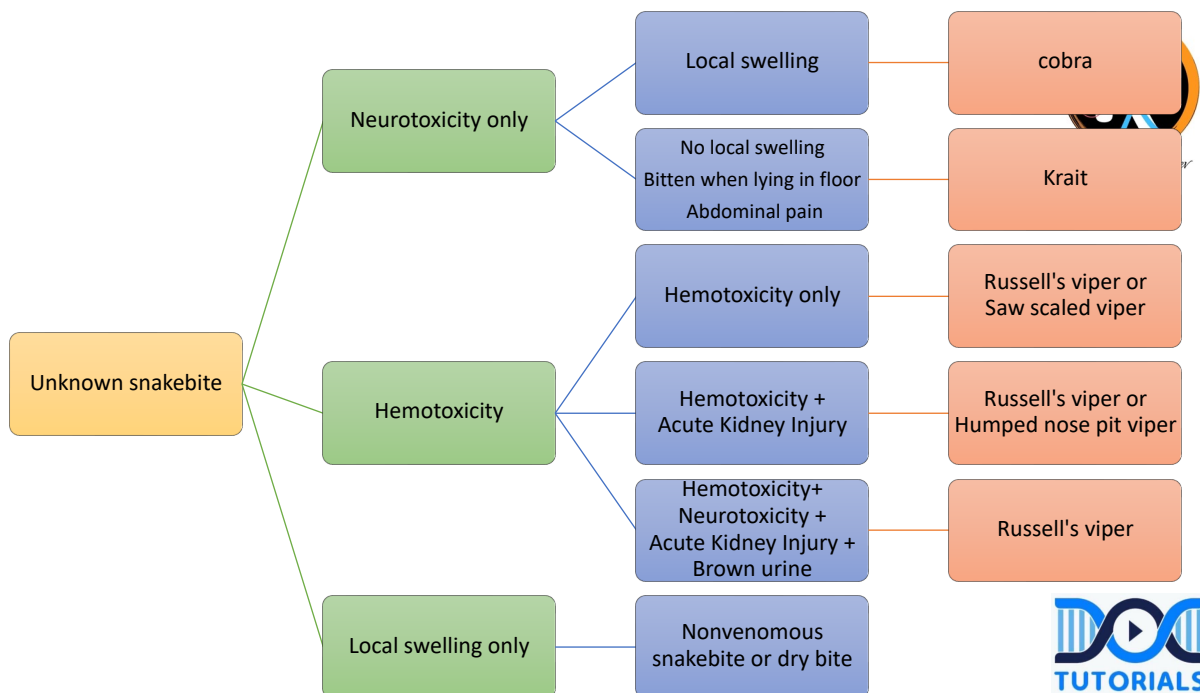


Common poisonous snakes in India

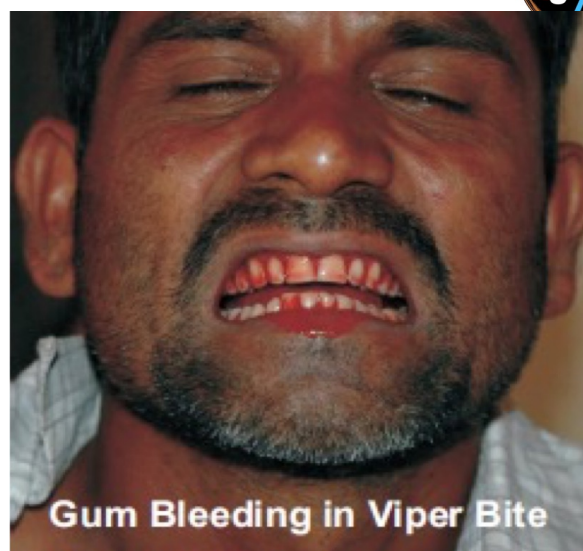


- **Elapidae** : Cobra, Krait
- **Viperidae** : Russell's viper, Saw scaled viper
- **Hydrophidae** : Sea snake
- **Crotalidae** : Humped nose pit viper





Features	Cobra	Krait	Russell's viper	Saw scaled viper	Hump nosed pit viper
Local pain / Tissue Damage	YES	NO	YES	YES	YES
Ptosis/ Neurological signs	YES	YES	YES	NO	NO
Hemostatic abnormalities	NO	NO	YES	YES	YES
Renal complications	NO	NO	YES	NO	YES
Response to neostigmine	YES	?NO	?NO	NO	NO
Response to ASV	YES	YES	YES	YES	NO



Gum Bleeding in Viper Bite





INVESTIGATIONS

- **20 minute Whole Blood Clotting Test**

2ml blood in a new dry glass test tube

Leave undisturbed for 20 minutes

Positive test : Blood is still liquid and unclotted



- CBC

Hb - low in hemolysis

HCT - transient increase

(Russell's viper - increased capillary permeability)

Platelet count - low in viper

- Peripheral smear : Hemolysis

- RFT : Viper



- PT-INR, aPTT

- Low platelet, elevated PT, aPTT, Low fibrinogen - DIC

- RFT

- Serum electrolytes

- Urine - Dipstick for blood, hemoglobin or myoglobin and proteinuria,
microscopy to detect erythrocytes and red cell casts





- Chest X-ray : pulmonary edema, hemorrhages , infarcts, pleural effusions and secondary bronchopneumonia
- ECG : for arrhythmias
- Echo : for myocardial dysfunction

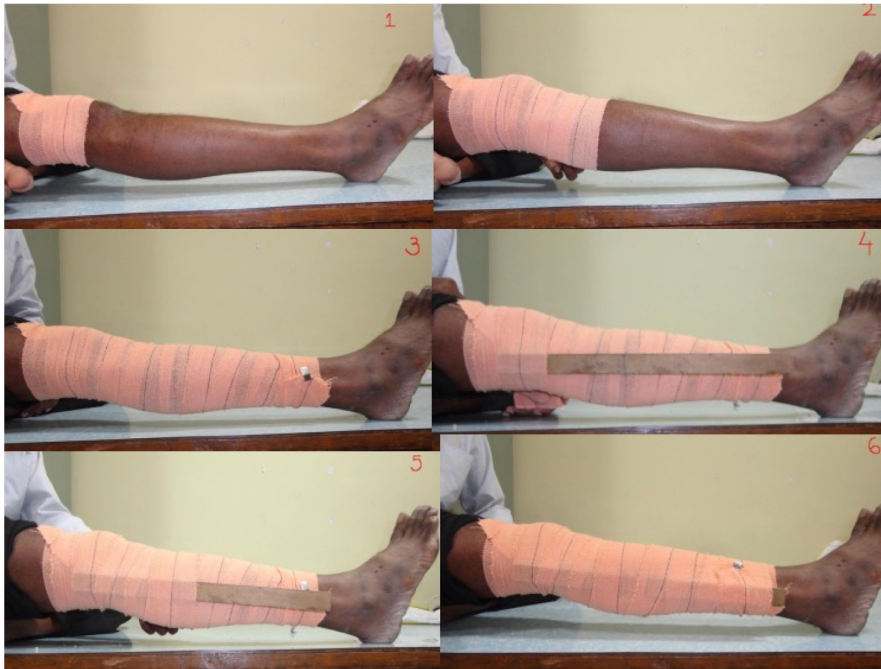


FIRST AID



- Reassure the victim
- Immobilize the injured limb
- Take to the nearest hospital as soon as possible





ANTI-SNAKE VENOM



- Immunoglobulin purifies from the serum or plasma of a horse or sheep that has been immunized with the venom of poisonous snakes
- Indian ASV's are polyvalent
 - Russel's viper, Saw scaled viper, cobra and krait
- ASV is diluted in 250-500 ml normal saline or 5% dextrose and infused over 1 hour



INDICATIONS FOR ANTIVENOM TREATMENT



- Systemic envenomation
- Local envenomation



Systemic Envenomation



- **Haemostatic abnormalities:** spontaneous systemic bleeding distant from the bite site, coagulopathy [+ve (non-clotting) 20WBCT or other laboratory tests such as INR >1.2 or patient's prothrombin time >4 seconds longer than laboratory control value] or thrombocytopenia < 1.0 lakh/mm³





- **Neurotoxic signs:** ptosis, external ophthalmoplegia, paralysis etc

- **Cardiovascular abnormalities:**

hypotension, shock, cardiac arrhythmia, abnormal ECG

- **Acute kidney injury :**

oliguria/anuria, rising blood creatinine/ urea



- **Haemoglobinuria/myoglobinuria:** dark brown urine ,
urine dipsticks, other evidence of intravascular haemolysis or
generalized rhabdomyolysis (generalized muscle aches, pains,
tenderness, pain on passive stretching



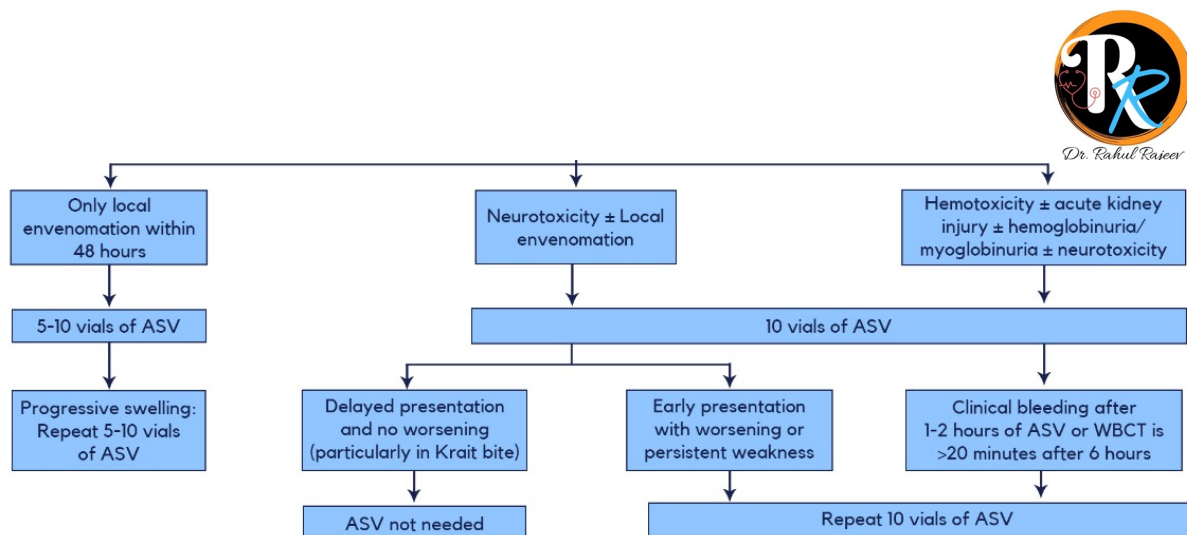
Local Envenomation



- Local swelling involving more than half of the bitten limb (in the absence of a tourniquet) within 48 hr of the bite.

Swelling after bites on the digits (toes and especially fingers)

- Rapid extension of swelling (for example beyond the wrist or ankle within a few hours of bites on the hands or feet)
- Development of an enlarged tender lymph node draining the bitten limb



SUPPORTIVE TREATMENT



- Neurotoxic envenomation - Neostigmine

Give atropine 0.6 mg i.v f/b 1.5-2mg neostigmine i.m

Observe for 1 hour for improvement

If there is improvement, give 0.5 mg neostigmine hourly (with atropine)

- Hypotension and shock - Fluids, inotropes

- Acute Kidney Injury

- Bleeding manifestations - FFP, Cryoprecipitate



- Antibiotics

- Fasciotomy

- Late complication - Pituitary insufficiency

