Disclosure Statement

► I have nothing to disclose.
Hopi and Navajo Reservations

Village of Old Oraibi
Wild West Medicine

► Dallie Thumb
► Rattlesnake Bites
► Hantavirus
► Jimson Weed Overdose

Dallie Thumb

► Anglicized version of Spanish
  *dar la vuelta*
  to go around or turn over
Dallie Thumb

► Rope loops out when thrown
► Line extends out over thumb
► Traps thumb between line and saddle horn

Dallie Thumb

► Complete avulsion in distal aspect of digit
► Crush/burn injury—damages all tissue
► DIP gone—can avulse at joint
► Possibility of reattachment?
Dallie Thumb

► Check the bone
► Rongeur sharp surfaces of distal end
► If skin is left, do flap

Dallie Thumb

► 4-6 weeks for recovery
► Infection
► Dehiscence
► Osteoarthritis
► Decreased vascular supply
► Necrotic tissue
► Hematoma
Prognosis

► Adjust team rankings
► Handicap—as in golf
► Don’t rope during healing
  ▪ Pain/tenderness
  ▪ Hyperesthesia
Snakebite

► 48,000 snakebites annually
► 40% - no venom passed
► 85% - if venom passes, pt becomes ill only
► 15% - fatal

“Don’t’s”:
- Tourniquet
- Cut and suck
- Cryo
- Antibiotics
Pit Vipers

► Diamondback Rattler
► Hopi Rattler
  ▪ Two fangs
  ▪ Pit between eyes and nose
  ▪ Triangular head
  ▪ Ventral side scales non-divided

Rattlesnake

► Size is important
  ▪ 4 to 6 feet
  ▪ Record: 8ft ½ inch and 20 pounds
Rattlesnake bite

► 40% -- No venom is passed

► Watch and wait...

Symptoms

► Pain
► Swelling
► Ecchymosis
► Discoloration/ Vesicles/ Blebs
► Oozing blood
► Metallic, rubbery taste
# Symptoms

- Systemic weakness / fatigue
- Confusion
- Nausea / vomiting
- Numbness / tingling
- Hypotension
- Prolonged Bleeding / clotting times

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# The Bitten

- Mostly <20 yo
- Male>Female 2:1
- ETOH
- Usually around the home
- 20% of bites—occur while trying to kill or handle snake
Work Up

► Vitals
► 2 large bore IV’s
► Remove watches, rings, bracelets, neck chains
► Allergy history
► CBC/ CMP / PT-PTT
► Mark with pen (time)
► Tetanus
► Meperidine for pain

Antivenom

► Two Types:
  
  Wyeth
  CroFab
Antivenoms

► Wyeth—Antivenin (Crotalidae) Polyvalent
► @1954
► Horse serum
► 40% reaction rate:
  ▪ Solumedrol
  ▪ Benadryl
  ▪ Beta agonist

Wyeth Antivenom

► Eastern Diamondback
► Western Diamondback
► South American
► Bushmaster
CroFab

- Crotalidae Polyvalent Immune Fragment Antigen (Fab)
- @2000
- Sheep serum
- Purer
- Anaphylactoid

CroFab

- Eastern Diamondback
- Western Diamondback
- Mojave
- Cottonmouth
CroFab

- 4-6 vials in 250 ml NS
- 1 gram Ab in NaPO4 buffer
- Infuse slowly over 10 minutes

Repeat at 6/12/18 hours

CroFab Contraindications

- Dry bite
- Reaction to CroFab
- Reaction to sheep
- Allergy to Papain—papaya
- Allergy to Pineapple—bromelain enzyme
Follow Up

- 2-3 days later:
  - Repeat coagulopathy

- 1 – 3 weeks later:
  - Repeat coagulopathy
  - Serum sickness
    - Fever, arthralgias, lymphadenopathy,
    - Urticarial rash
    - Tx: Steroids

Hantavirus

- Bunyaviridae Family of viruses

- Hantan River (Korean hemorrhagic fever)
- Hanta Virus with Renal Syndrome
Hantavirus

- 1993-new species
  Hantavirus
  Cardiopulmonary Syndrome
AKA *Sin Nombre* virus
New Mexico and 4 corners States

From 1993 to July 2016 -8 States with 30 or more cases
**Hantavirus**

- Source: infected rodents
  - Urine
  - Droppings
  - Saliva

Humans breathe in aerosolized virus

**Vectors**

- Deer Mouse (*peromyscus maniculatus*)
- White Footed Mouse (*peromyscus leucopus*)
- Cotton Rat (*sigmodon hispidus*)
- Rice Rat (*oryzomys palustrics*)
Hantavirus

Not transmitted by:
Person to person
► Healthcare provider
► Kissing, touching
► Animals or insects
► Blood transfusions
► Pet store animals—rats, gerbils, etc

Hantavirus

► Incubation time is 2-4 weeks in humans then:
  Five Phases of illness
  1) Febrile phase  3-7 days
  2) Hypotensive phase  2 days
  3) Oliguric phase  3-7 days
  4) Diuretic phase  several weeks
  5) Convalescent phase
Signs / Symptoms

- Prodrome 3-5 days
  - Fever, chills, myalgias
  - Tachypnea, tachycardia

Analysis

- ELISA—IgM
- IgG
- Western blot
- RIBA (rapid immunoblot assay)
Work Up

- CBC q8 hrs
- Serum albumin
- Hematocrit
- WBC (50%) with left shift
- Platelets < 150,000
- Xray findings

Radiographic Progression of HPS in the Lungs

May 27, 1993

May 30, 1993

May 31, 1993

Source: Dr. L. Ketai

CDC
Treatment

- Supportive
- Broad spectrum abx
- Antipyretics
- Analgesia

Hantavirus

- Ribavirin—no effect
- (Even though it helps HFRS)
Treatment

- ICU
- Careful monitoring
- Fluid balance
- Electrolyte balance
- Blood Pressure
- Supplementary O2
- Intubation / ventilation

Jimson Weed

- Datura stratusuonium
- Night shade family
- One of “belladonnas”
- Used to treat asthma and colds
Jimson Weed

- Jamestown Weed, Jamestown, VA 1676
- Locoweed, Angel’s trumpet, Thornapple,
- Devil’s trumpet
- Found in cornfields, roadsides

Horseradish
- Gardener’s mydriasis
- Corn picker’s pupil
Jimson Weed

- Annual plant
- Lobed leaves
- Pod
- 50-100 seeds = 3-6 mg

Forms

- Seeds
- Tea
- Cigarettes
Anticholenergic Properties

- Hot as a hare
- Red as a beet
- Dry as a bone
- Mad as a hatter

Overdose

- Coma
- Respiratory arrest
- Seizures
Diagnosis

► AST, LDH, bilirubin, PT
► Urine - rabbit eye

Management

► ABC’s
► Dextrose, thiamine, naloxone
► Sedatives, B-blockers
► Foley catheter
► Cooling blanket
► Decontamination
  ▪ Lavage, charcoal
Sources

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