Zoonosis From Pets
Dr. Corrie Brown, University of Georgia
A Webber Training Teleclass

Zoonoses from Pets
Old faithfuls … Pretty scary … On the increase/ really wild

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Hosted by Paul Webber
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Mange – three types

• Sarcopites – big winner
• Cheyletiella – “walking dandruff”
• Notoedres – rare

Sarcoptic mange

• 30–50% of cases in dogs lead to human involvement!
• Skin scrapings in humans are negative

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Notoedric mange
- Cats
- Uncommon in U.S.

Cheyletiellosis
- Dogs, cats, rabbits
- "walking dandruff"
- Intensely pruritic in humans

Ringworm
- 30% of animal cases lead to human involvement
- Cats carry *Microsporum canis*
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Cutaneous larva migrans
- Hookworm larvae
- “creeping eruption”
- Southeastern U.S.

Visceral larva migrans
- *Toxocara* species
- 33% of humans have antibodies
- Target organs: EYE, brain, lung, liver

Cutaneous larva migrans

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Toxoplasmosis
- 400-4,000 cases of congenital toxoplasmosis in the U.S. every year
- Sources – undercooked meat, cat feces, environmental contamination

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Psittacosis

- Flu-like illness in humans
- Birds can be carriers

Campylobacter jejuni

*The most common cause of gastroenteritis in the U.S.*

- surface water (fecal contamination)
- wild birds and mammals
- raw meat and poultry, milk, shellfish
- pets

**Campylobacter jejuni**

- MOST chicken carcasses are contaminated
- 5% of cases in humans are from pets

Salmonellosis

- $10^6$ inoculating dose required
- animals are the major reservoirs for all *Salmonella* (except *typhii*)
- 1.4 million human cases per year in US
  - ~ 500 are fatal

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Reptile owner donates blood, passes on lethal Salmonella infection

A study in the New England Journal of Medicine (Oct 12, 2004) reported a reptile is the source of a Salmonella infection that contaminated a parent volunteer and his daughter. The parent and daughter were hospitalized and recovered after successful treatment with antibiotics. The study further examined the reptile and found it to be infected with Salmonella. The reptile was subsequently euthanized and the study concluded that Salmonella infection can be transmitted to humans through the bite of reptiles.

15 cases in 10 states

Clostridium difficile

- Incidence in humans increasing
- Found in healthy dogs

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Sporothrix schenkii

- Environmental saprophyte
- Causes cutaneous and lymphatic nodules
- Contagious to humans

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Baylisascaris procyonis

- 60-80% of all raccoons carry
- VERY persistent in the environment

Raccoons can defecate millions of B. procyonis eggs per day
- Eggs can survive in environment for years

Alveolar Hydatid Disease (Echinococcus multilocularis)

- Arctic regions
- Fox, coyote (dog) are definitive hosts; rodents are intermediate hosts
- Humans infected by carnivore feces
- Multilocular hydatid cysts in liver, lung, brain

Alveolar hydatid disease

- Echinococcus multilocularis – range increasing

Yersinia pestis

- Sylvatic plague increasing in SW U.S.
- Last 20 years – 300 cases in cats, 30 cases in humans
- Regular outbreaks in prairie dogs every 4-5 years

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Plague in cats
- Same forms of disease as in humans
- Most cases BUBONIC, with lesions around head
- Secondary pneumonic form reported - DANGER

Yersinia pestis
- antiphagocytic plasminogen activators
- endotoxin
- Yop virulon

Disease from bite wounds
- 1% of ER visits
- from dogs > cats > humans
- polymicrobial

Capnocytophaga canimorsus
- part of normal canine oral flora
- septicemia with DIC in humans, peripheral symmetrical gangrene, encephalitis, death

Bartonella henselae
- cats have prolonged bacteremia
- fleas important in spread

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World Health Organization

Cumulative Number of Confirmed Human Cases of Avian Influenza A(H5N1) Reported to WHO

13 Mar 2006

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World Health Organization

Officials say Azeri dog dies of bird flu.

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Cryptococcus gattii

- Cluster of human and animal cases, Vancouver island
- New species of Cryptococcus
- Immunocompetent individuals affected

Cryptococcus gattii

- From red gum eucalyptus
- Respiratory, skin, and CNS lesions
- >100 human cases

zoonosis from plants = botanosis?
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The Next Few Teleclasses

June 22  Controlling Pediatric Respiratory Infections
          … with Marion Yetman, Lauri Streitenberger,
          Anne Augustine

June 29  Bloodborne Pathogen Control Across the
          Continuum of Care
          … with Sue Sebazco

July 18  Infection Surveillance in the UK
          … with Dr. Allan Johnson

July 27  Demal Absorption of Alcohol Disinfectants
          … with Dr. Axel Kramer

For the full teleclass schedule – www.webbertraining.com