Subjects

Animal Health

Disease Cards

- Bluetongue
- Contagious bovine pleuropneumonia (CBPP)
- Contagious caprine pleuropneumonia (CCPP)
- Sheep and goat pox (SGP)

Zoonotic Diseases

- Anthrax
- Avian Influenza
- **Botulism**
- Bovine Spongiform Encephalopathy - BSE [Spanish only]
- Brucellosis, bovine
- Brucellosis, ovine/ caprine
- Cysticercosis (bovine)
- Cysticercosis (porcine)
- Escherichia coli [Spanish only]
- Hydatid disease
- Leptospirosis
- Listeria monocytogenes [Spanish only]
- Q fever
- Rabies
- Rift valley fever (RVF)

ANIMAL HEALTH DISEASE CARDS

Botulism

Botulism is a disease manifested by progressive muscular paralysis. It is seen in humans, animals, birds and fish and is caused by various strains of Clostridium botulinum.

Transmission

Decomposed flesh and bones are the source of infection for animals. Incubation period 12 - 24 hours. However, 2 hours up to 14 days incubation period has been recorded.

Ante-mortem findings

In cattle and horses:
1. Restlessness
2. Knuckling and incoordination
3. Paralysed tongue and drooling of saliva
4. Sternal recumbency
5. Progressive muscular paralysis from hindquarters to frontquarters, head and neck.

In sheep:
1. Serous nasal discharge and salivation
2. Abdominal respiration
3. Stiffness upon walking and incoordination
4. Switching of the tail on the side
5. Limb paralysis and death

In pigs:
1. Lack of appetite, refusal to drink and vomiting
2. Pupillary dilatation
3. Muscular paralysis

Post-mortem findings

Foreign material in fore-stomachs or stomachs may be suggestive of botulism.

Judgment

Total condemnation of carcass because of human hazards.

Differential diagnosis

Parturient paresis, paralytic rabies, equine encephalomyelitis, ragwort poisoning in horses, miscellaneous plant poisoning.

In sheep - louping ill, hypocalcemia and some cases of scrapie.

Discussion

also in the AGA website...
- Veterinary Public Health
- Software Downloads

Related Links

- CDC Public Health Training Network (PHTN)
- CDC Disease Information: Botulism
- Emergency Medicine: Botulism
- Medline plus: Botulism
- Botulism Factsheet (PDF Version)

- Sarcocystosis
- Toxoplasmosis
- Trichinosis
- Tuberculosis

Cl. botulinum is found in the digestive tract of herbivores. Soil and water contamination occurs from faeces and decomposing carcasses. The proliferation of Cl. botulinum organisms may also occur in decaying vegetable material. Sporadic outbreaks of botulism are reported in most countries. Outbreaks of botulism in cattle and sheep in Australia, Southern Africa and the Gulf coast area of the United States are associated with phosphorus deficient diets and ingestion of carrion. Cattle, sheep and rarely swine are susceptible to this disease. Dogs and cats are resistant.

Cl. botulinum produces neurotoxin which causes functional paralysis. Seven strains of this organism (" A through G ") are distinguished according to immunological differences. The diseases caused by various strains of this agent are frequently regarded as a separate entity owing to some of their prominent signs. Names such as "Bulbar paralysis in cattle", "Lamsiekte in sheep" in South Africa (meaning lame sickness), and "Limberneck in poultry" are often used. Cl. botulinum is often found in anaerobic conditions of deep wounds. It produces neuroparalytic exotoxins which cause symptoms of the disease. This organism will grow and produce toxins if the temperature is between 10 - 50ÐC, pH above 4.6. water activity (AW) above 0.93 and anaerobic conditions exist.

Fresh meats are implicated with less than 10 % of botulism outbreaks. The major sources of this organism are fish, home cured meats, home canned vegetables and fruit. Eggs, milk and their products are rarely the cause of an outbreak. Most frequently, raw, insufficiently cooked foods or foods not fully salted, cured, dried or smoked are implicated. Botulism toxins are heat labile and food suspected of having the organism should be boiled before serving.

In man the signs of the disease are weakness, dizziness, blurred or double vision, dilatation of pupils, dry mouth, difficulties in breathing and speech, progressive muscular weakness, respiratory failure and death. Pneumonia may be a complication associated with botulism in man.

Comments: AGA-Webmaster