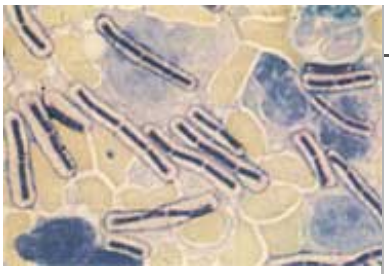

Subjects

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

Anthrax

Anthrax is a peracute disease of ruminants manifested with septicemia, sudden death and tarry blood from the body openings of the cadaver. It is caused by Bacillus anthracis.

Transmission

Man may contract anthrax by inhalation, ingestion and through a wound in the skin. Biting flies have been shown to be transmitters.

Ante-mortem findings

The peracute and acute forms in cattle and sheep are without clinical signs. Death may follow in the acute form after 1 - 2 hours of illness. The acute form lasts about 48 hours.

In pigs and horses this disease is usually localized and chronic and is often characterized by swelling around the throat and head.

Ante-mortem findings in pigs:
1. Incubation 1 - 2 weeks
2. Edematous swelling of the throat and neck
3. Swallowing and breathing difficulties
4. Death due to choking or toxaemia
5. Septicemia is not observed.

Post-mortem findings

1. Dark-tarry blood discharge from body orifices
2. Absence of rigor mortis
3. Haemorrhage of the mucous and serous membranes, lymph nodes and subcutaneous tissue
4. Enlarged spleen
5. Severe haemorrhagic enteritis
6. Degeneration of the liver and kidneys
7. Bloating and rapid decomposition of carcass
8. Localized lesions in the intestine of pigs (dysentery)

Judgment

Condemnation of the carcass and its parts by burning or burial. If disposed by burial, the carcass should be buried at least 6 feet below ground. The site should be surrounded by a foot thick layer of quicklime.

Differential diagnosis

Peracute blackquarter and septicaemic form of other diseases. In splenic enlargement as seen in babesiosis, anaplasmosis and leucosis, spleen consistency is firm. In anthrax, the spleen is soft and upon incision the pulp exudes like thick blackish-red blood.

Discussion

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

Related Links

- Bacteriology at UW-Madison: Bacillus anthracis and anthrax
- WHO Collaborating Centre-LSU: World Anthrax Data Site
- National Institute of Allergy and Infectious Diseases (NIH)
- CDC factsheet
- CDC Frequently Asked Questions
- Virtual Museum of Bacteria

- Sarcocystosis
- Toxoplasmosis
- Trichinosis
- Tuberculosis

If an animal has died from an unknown cause in an abattoir's pen or in the stockyard, a blood smear from the tip of the ear should be examined to eliminate anthrax as a cause of death. All measures should be taken to prevent further contact with the carcass. The orifices of the nose, vulva and anus should be packed with cotton swabs to eliminate further spillage of discharge. The carcass must not be opened. Due to insufficient oxygen supply in the closed carcass, spores of B. anthracis will not be formed and the organism will be killed. The spilled discharge is firstly removed by drying with sawdust and sand and is then destroyed together with the carcass. The carcass is wrapped in thick plastic sheets and destruction is performed under the supervision of an appropriate government official.

An open carcass facilitates exposure of B. anthracis to air and consequently, spores are formed within a few hours. Anthrax spores are resistant to heat and disinfectants and may survive in a suitable environment for years.

The abattoir's pen or stockyard area suspected of being in contact with an anthrax animal should be disinfected with 10 % NaOH or 5 % formaldehyde and cleaned. This cleaning should also include the cattle trucks or cars used for the transportation of infected animals.

All personnel that were in contact with anthrax or that handled contaminated material, are also subjected to decontamination. The arms and hands should be washed with liquid soap and hot water. After they have been rinsed, they should be immersed for about one minute, in an organic iodine solution or 1 p.p.m. solution of mercuric perchloride or other acceptable agents. This is followed by a potable water rinse. Clothing of the personnel involved should also be cleaned and thoroughly disinfected by boiling.

If the carcass is discovered on the killing floor, all operations must cease. The carcass and its parts including hides, hooves, viscera and blood must be condemned and destroyed. The carcasses which have been dressed by the same abattoir employees prior to or after the affected carcass must also be condemned and destroyed. Those carcasses which had been dressed before the affected carcass may have a second option of being salvaged with sterilization. They must be boiled for a minimum of 3 hours if contamination occurred with blood splashes. If impractical, these carcasses may be used for "canned meat" for which heat treatment is recommended.

Disinfection of equipment used for the dressing of a diseased carcass as well as the infected abattoir area, should be done with 5 % solution of sodium hydroxide (NaOH). This disinfectant is used because of its action on fat and grease removal. Heat in the form of a blowtorch can be used for disinfecting buildings.

Comments: AGA-Webmaster