Tyzzer's Disease

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Tyzzer's disease is an illness that can cause cell death in the liver and intestinal tract of many small mammals including rabbits, guinea pigs, hamsters, and gerbils. It has also been reported less commonly in rats, mice, cats, dogs, and horses.

What causes Tyzzer's disease?

Tyzzer's disease is caused by the bacteria, *Clostridium piliforme* (*C. piliforme*), formerly called *Bacillus piliformis*. *C. piliforme* lives in the intestine and is spread from animal to animal through fecal contamination of food and water. The bacteria can produce spores, which can survive for years in the environment, and are very resistant to heat and many disinfectants. The spores are shed in the feces of infected animals.

What are the signs of Tyzzer's disease?

Animals with Tyzzer's disease often have watery diarrhea, staining around the anal area, depression, dehydration, lethargy, and scruffy hair coats. It is more frequently and likely to cause acute death (within 48 hours of the first signs) in young animals or those stressed by overcrowding, poor hygiene, extreme environmental temperatures and humidity, parasitic infections, or malnutrition.

How is Tyzzer's disease diagnosed?

Unlike most other disease-causing bacteria, *C. piliforme* only grows inside of cells, and therefore will not grow on routine culture media in a laboratory. A blood test is available to test for antibodies to *C. piliforme*, but false positive test results can occur. Diagnosis is often made post-mortem, by using specific stains on tissues of the intestine and liver and examining them microscopically. The disease can also affect the heart and central nervous system.

How is Tyzzer's disease treated?

There is no specific therapy that will kill *C. piliforme*, although tetracycline is often administered. Treatment is generally aimed at supportive care including fluids, good nutrition, and providing the optimal temperature and humidity. In young and stressed animals, treatment is usually unsuccessful.

How can Tyzzer's disease be prevented?

Conditions that cause stress should be avoided, especially in young animals during weaning. Extreme care should be taken to assure animals have a proper environment, diet, and treatment of any parasitic infections. Healthy animals should be separated from any animals showing signs of the disease. There is no vaccine for Tyzzer's disease. The bacteria and spores can be killed using a 1:10 dilution of household bleach and water (½ cup of bleach to 5 cups of water).

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