Chapter 16 - Lesson 8

Vesicular Stomatitis Control Program

Introduction

Vesicular stomatitis (VS) is a zoonotic viral disease usually affecting cattle, horses, and swine. Sheep and goats are very rarely affected. Most cases are reported during the warm months along rivers and streams in the southwestern United States. Confirmed laboratory tests are reported to the state animal health agency.

Transmission

VS can be transmitted mechanically through insects or fomites, or through direct contact with infected animals. Humans can become infected by skin contact or inhalation. Once it is introduced into a herd, the disease is transmitted from animal to animal through saliva or fluid from ruptured lesions. Biting gnats such as sand flies and black flies are known to maintain VS in gnat populations by transovarial transmission.

Clinical Symptoms

The incubation period for VS is 3 to 5 days. The clinical signs depend on the animal species, though fever is common to all species. Infected animals might also salivate excessively. Close examination of the mouth reveals blanched, raised vesicles. In horses, these lesions generally occur on the upper surface of the tongue. In cattle, the lesions usually appear on the hard palate, lips and gums, sometimes extending to the muzzle and nostrils. Dairy cattle often suffer from teat lesions, which may lead to mastitis. The first sign in pigs may be lameness caused by foot lesions. Animals that become infected usually recover in about 2 weeks as long as no secondary infection sets in. VS in cattle and swine closely resemble foot and mouth disease (FMD), so early detection and testing by a veterinarian are important.

Prevention

To protect animals from vesicular stomatitis:

- Control biting gnats and flies.
- Keep stalls clean.
- Keep horses stalled or under a roof at night to reduce their exposure to gnats.
- Feed and water horses from individual buckets.
- Disinfect borrowed equipment or tools from livestock farms.
- Disinfect boots of people from livestock farms.
- Disinfect truck and trailer tires from livestock farms.
VS vaccine for cattle may be made available during a significant outbreak, although little is known about its effectiveness in preventing infection or reducing the clinical signs of VS.

Protective measures for keeping VS in dairy cattle from spreading to other animals include:

- Clean and sanitize feed bunks and water sources daily.
- Use different boots or disinfectant footbaths when moving between clean and infected areas. Phenolic- and halogen-based disinfectants work best. Sunlight and heat also destroy the virus quickly.
- Clean and sanitize feeding and cleaning equipment before using it with healthy animals.
- Control insects on animals and in the facility.
- Isolate infected animals as soon as signs appear.
- Minimize inter-pen movement of all animals.
- Properly dispose of dead animals.
- Remove calves from infected dams immediately, and keep these calves separated from others.
- Prewash teats, if necessary, with diluted acid detergent and emollient to soften and remove soil. Daub teats dry with a soft paper towel and examine them carefully.
- After milking, use iodine-based teat dip with a high concentration of emollient. Latex-based teat dips may provide a shield against the virus.
- Use separate dip dispensers for infected animals and healthy animals.
- Dip milkers’ gloves in tamed 4% iodine and rinse with water before milking the next animal.
- After every two to three animals, dip liners in all units in tamed 4% iodine and rinse well with water. Dip liners also if a newly infected animal is inadvertently milked with the regular milking string.
- Empty, wash and spray feed bunks and floors with disinfectant and rinse with water between strings.
- Pull animals that are drooling, foaming at the mouth, or have new teat blisters from the regular milking string. Place these animals with other infected animals and milk them last.
- Dip teats with new blisters in tamed 4% iodine and rinse with water before milking. Do not let the iodine dip enter the milk line.

As with all outbreaks, the traffic going into and out of the premises should be kept to a minimum. Only necessary workers should be allowed in, and they should be disinfected on their way in and out.

**Control**

Animals that are infected should be quarantined until 30 days after the last lesions are healed to keep the disease from spreading. If VS is suspected in a herd, contact state and federal veterinarians immediately.

**Resources**


**Questions**

1. Explain the measures taken to prevent introduction of vesicular stomatitis in livestock operations.
2. Explain the measures taken to control vesicular stomatitis from an infected livestock farm.

**Activity**

1. Observe a veterinarian perform a physical examination of a horse for clinical signs of vesicular stomatitis.