



Cowpox

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Early nineteenth century observations indicated that cowpox and smallpox were identical diseases except that one occurred in cattle and the other in man. The lesions of cowpox have been produced in cattle following inoculation with materials from human smallpox cases.

When the virus of smallpox is transmitted from man to animals such as the cow, it loses its virulence for man and is known as vaccinia. This form of the organism was used in vaccination of man for smallpox.

There are at least two different types of cowpox virus. One which is seldom seen in this country is known as true cowpox and is usually transmitted by persons recently vaccinated for smallpox. The other virus is described as pseudo-cowpox-virus (Milkers nodules) and is the one that we most often observe in cattle.

Today a new strain of virus is used for smallpox vaccine.

Milkers whose hands come into contact with true cowpox often have an immunity to smallpox conveyed to them. There are several published reports of outbreaks of cowpox in cattle through contact with milkers recently vaccinated for smallpox. Recovery from infection usually confers a lasting immunity.

Increased vaccination for smallpox in humans has done much to eliminate the problem of cowpox. However, an occasional herd outbreak still occurs.

Cowpox is caused by a virus. The lesions of cowpox are usually observed on the teats, but may be present on the skin surface of the udder. In some

instances, it may be observed in the male, with lesions usually occurring on the scrotum.

The symptoms of cowpox usually observed include increased sensitivity of the udder and teats, followed by a papule (skin elevation), vesicle (blister), pustule (boil) and scab in that order. Eight to 14 days may pass between the first symptoms and the scab formation. Additional symptoms may include slightly elevated temperature, loss of appetite and decreased milk production.

Mastitis often is the final result of cowpox infection, as constant irritation of the milking process produces open lesions followed by secondary bacterial invasion. Early measures must be started to prevent mastitis and stop further spread of cowpox throughout the dairy herd.

Cowpox may occur in beef as well as in dairy cattle. However, it usually is a disease problem of dairy cattle. A nursing calf may spread the infection from one cow to another. The calf may also become infected, resulting in a digestive disturbance and, in some instances, death.

Cowpox Is Spread By Milking

Infection may result from the addition of new animals to the herd or other means of contact with outside animals such as exhibitions, sales and breeding.

Cowpox is spread within a herd by milkers' hands, milking machines, mudholes or wet contaminated yards, contaminated bedding and nursing calves. The virus of cowpox may live for long periods in wet, manure contaminated soil. Unsanitary conditions or management procedures contribute to the spread of cowpox.

Treatment

Maximum udder sanitation is first in the control and treatment of cowpox. The first step is the use of an effective skin disinfectant and cleansing agent which will not be irritating to the teats and udder. Chlorine is of little value in control of cowpox. Very frequently it irritates and produces increased sensitivity of the teats and udder, resulting in the spread of the cowpox infection. Some of the currently used preparations for teat dipping may be applicable.

Various recognized quaternary ammonium preparations available today have proved to be most effective. The following preparations are included in this group: Pfanstiehl-20, Roccal and Zephiran.

In addition to the establishment of maximum sanitation and disinfection to prevent spread of the disease, cowpox lesions must receive special attention. Application of medication which will adhere to the area, prevent secondary bacterial invasion, counteract irritation and promote healing becomes an essential part of the treatment. Most medicated ointments are of value for this purpose. These ointments may be obtained from the veterinarian.

Animals to be added to an established herd should be isolated for two to three weeks and milked following completion of milking of the established herd. Veterinary inspection of isolated animals before admission to the herd will often save the dairyman many dollars in lost production and medication cost for cowpox.

Bovine Ulcerative Mammilitis May Appear Similar

Bovine ulcerative mammilitis is a virus disease of cattle with signs similar to those observed for cowpox. Mammilitis has been primarily recognized as an European disease but in recent years has been diagnosed in the Minnesota-Dakota area.

The signs of mammilitis appear approximately one to two weeks following infection. The lesions initially appear as thickened areas of skin on the teats or udder that later become blisters. The blisters ulcerate and later become covered with a thick dark scab formation. The scabs may persist for two or more months. No systemic illness is usually detected other than that observed from the resulting mastitis. Milk production is usually drastically reduced.

The following procedure has proved effective in the treatment and prevention of cowpox.

1. Isolate and milk last all animals exhibiting symptoms and lesions of cowpox.
2. Wash hands, milking machine inflations, udder and teats thoroughly with a recognized quaternary ammonium preparation before milking each animal. Milkers' hands are ideal for the spread of cowpox. They should be washed and dried before the milking of each cow. Roccal, zephiran or quaternary ammonium disinfectants should be used in the wash water. The infected cow's teats and udder, and the milking machine inflations, also should be washed with a disinfectant between the milking of each cow.
3. Following milking, re-wash the udders and teats of all infected cows with a quaternary preparation.
4. Following washing, dry teats and udder thoroughly with clean, disposable towel.
5. Apply a medicated ointment or teat dip to teats and udder to prevent secondary bacterial invaders and to promote healing, giving special attention to areas exhibiting cowpox lesions.