

Anthrax

by C. Edgar Sheaffer, VMD

Most veterinarians practicing in the United States have never seen a case of anthrax in animals. Until recently, the total number of cases reported annually has been very low, but currently there is widespread concern that this dangerous disease which runs a rapid course may become a threat to both the human and animal populations.

SCIENTIFIC FACTS

Anthrax is an acute febrile disease of virtually all warm-blooded animals, including man. It is caused by the bacteria named *Bacillus anthracis*, which is stored in long-living spores capable of maintaining the disease on a farm for many years. The spores release bacteria into the host (patient) when conditions are optimal. Most commonly, it manifests as a septicemia characterized principally by a rapidly fatal course. It occurs worldwide and is irregularly distributed in districts where repeated breaks occur. In the United States, there are recognized areas of infection in South Dakota, Nebraska, Arkansas, Mississippi, Louisiana, Texas and California; small areas exist in a number of other states. In endemic areas neutral or alkaline calcareous soils serve as an incubator for the bacterial organisms. Spores revert to the vegetative form (independent growth like plant roots) when environmental conditions are optimal.

PERSONAL MEMORY

As a veterinary student I was taught that a human case of anthrax had occurred in Lancaster County, Pennsylvania, about 50 years earlier. A farmer had noticed that a cow was not looking well, so he quickly killed and butchered it. The meat was frozen in the home freezer. The farmer became ill several days later with symptoms of the cutaneous form of the disease. Fortunately, a quick diagnosis led to proper therapy.

After extensive history-taking that included questioning of the entire family, the investigative team became suspicious of the carcass in the freezer. Samples of meat tested at the Clinical Pathology Laboratory of the University of Pennsylvania School of Veterinary Medicine were positive for anthrax spores and bacteria. The entire carcass had to be properly disposed of, as any other

biohazardous substance. The freezer and the entire premises were then properly cleaned and disinfected.

Anthrax would be more prevalent except that most farmers and livestock owners act responsibly, caring for sick animals and disposing of dead animals. It is not healthy for anyone to leave dead carcasses lying in the fields for the vultures. When an animal has been sick and then dies, the body should be immediately transported to a rendering plant. Proper rendering and cooking is designed to destroy all infective bacteria, including anthrax spores.

Farmers giving care to suspected cases should wear protective masks, clothing, boots and gloves. If not properly protected, do not contact the patient. When medications are being administered, they may be given in the drinking water.

FROM THE ARCHIVES

Veterinary homeopaths in the past did not have access to any vaccine or antibiotics and hit this illness head-on with their various homeopathic medicines and nosodes. Research into the old texts, many of which are out of print and only found in the archives of universities, has produced information which may be of value today.

In the 1830s veterinarian Dr. Wilhelm Lux was called to attend a flock of sheep that were dying of anthrax. This German scientist had previously experienced success using nosodes to prevent and treat other diseases in livestock. Lux prepared an alcoholic extract from the spleen of the sheep that had just died. Soon, a number of physicians and veterinarians were employing this new homeopathic medicine for their patients suffering with serious illnesses. The lives of both sheep and their shepherds were being spared by Lux's gift of anthracinum.

SIGNS AND SYMPTOMS

Anthrax will infect all domestic animals, especially cattle, sheep, goats and swine — less frequently horses and still less frequently dogs — especially in the months of June, July and August. The blood is altered, and there is a disposition to gangrene, especially in the spleen. Anthrax disease is characterized by acute

septicemia, so that no matter where it begins in the body (mouth, tongue, stomach, lungs), it rapidly spreads throughout. It is only the skin form that gives grace because it spreads more slowly. Skin lesions consistently have a black center to a dark non-healing ulcer.

ACUTE ANTHRAX (ST. ANTHONY'S FIRE)

Acute anthrax destroys animals in a few minutes, and never lasts beyond 24 hours. The precursory symptoms — such as cold feet and cold tips of ears, dragging of the hind quarters, and vanishing of milk — are easily overlooked, while the appetite is unaffected. All at once, trembling, hurried breathing, anxiety, and restlessness with stupefaction set in. At the approach of death a bloody mucus flows from the mouth, nose or anus, and after tumbling down several times death takes place with a rattling noise amid convulsions, especially in cattle, sheep, goats and swine. The above is typical when the anthrax bacteria are ingested by animals. Often the bacteria are contracted from old carcasses improperly buried in alkaline calcareous soils.

CHRONIC ANTHRAX

Chronic anthrax seldom lasts beyond a week, sometimes a little longer; it generally commences with debility, loss of appetite and vanishing of milk. (This form is called chronic because the animals live longer than 24 hours.) After the disease has fully set in, the appetite is entirely lost; ears, nose and horns feel alternately hot and cold; trembling or a twitching of the skin is perceived over the whole body or only at the hindquarters; the back part of the body is drawn forward from time to time; and breathing is anxious, intermittent and sometimes accompanied with a short cough. The eyes fill with tears, and sometimes a bloody mucus flows from the mouth. The manure is scanty, hard and streaked with blood; afterward the discharges become less frequent, and various tumors break out on the neck, head and chest as well as on the ribs and in the groin. In sheep and swine affected with the chronic form of anthrax,

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red streaks and spots appear, soon becoming blue and gangrenous, after which death takes place. Sometimes the tongue becomes covered with vesicles that become gangrenous, break, and discharge an acrid ichor — a burning, thin, pus-like discharge from an ulcer — that destroys the adjoining parts of the tongue, which falls out in pieces; the disease thence travels downward, destroying the tissues and organs of the body within a few days.

WOOLSORTERS' DISEASE

Woolsorters' disease is most frequently seen in humans. It generally takes two forms: the most common being the cutaneous form, contracted when a wound on the skin comes in contact with contaminated wool or hair; the other less common was the pulmonary-mediastinal form, which has a more rapid course. In all cases of the disease early therapy is the key to survival.

HISTORIC HOMEOPATHIC THERAPY

J. C. Schaeffer's *New Manual of Homeopathic Veterinary Medicine* (1863) states, "In all forms of Anthrax, aconite, arsenicum, nux vomica and mercurius vivus are to be given in the above enumerated order. Dosing is recommended every 15 minutes until the patient shows obvious improvement, and then every half-hour day and night. On day two, dosing should be hourly; on day three, every two hours; on day

four, every three; on day five, every four; on day 6, every five; and on day seven, every 6 hours, even though the animal should seem perfectly healthy."

Veterinary Homeopathy (1896), by John Sutcliffe Hurndall, MRCVS, offers the following recommendations: "Lachesis is a most efficient remedy for the treatment (of anthrax) and should be kept at hand for immediate use. Ten drops or 10 pellets (cattle dose) should be given hourly at first and then every 3 hours as the patient improves. Immediately all sick animals should be quarantined (isolated) from the well animals. . . . Sick animals should be fed soft wet mash made of boiled linseed or barley (or oats) carrots and finely chopped grasses." When there are any neurologic signs such as any trembling or delirium, the nosode anthracinum CM is reported to be useful. A CM potency is high potency: 1-to-100,000.

All dead animals should be carefully and immediately removed from the premises. At no time should the bodies be necropsied on the farm. All secretions and excretions should be considered infective. Dead carcasses do not undergo rigor mortis.

In the United States, anthrax is a reportable disease. Veterinarians are obligated to report any suspected cases to state and federal authorities. Quarantines, disposal of carcasses, cleaning and disinfectant of premises will be carried out by the same authorities and under their supervision.

In the 21st Century several antibiotics are reported to be effective. Those used most frequently are Ciprofloxacin and the tetracyclines. In livestock, penicillin in high doses may be effective if begun early in the course of the disease. A vaccine is available for livestock to help prevent anthrax in endemic areas.

Since the homeopathic approach generally works quickly to support the patient without side effects, it is prudent to begin early until a proper diagnosis can be made. If the diagnosis is positive for anthrax, then antibiotic therapy should be instituted, as well.

ANTHRAX BASICS

1. Anthrax is an acute septicemic disease in man and farm animals requiring therapeutic intervention as soon as possible.

2. Anthrax spores live in the soil of endemic areas for a long period of time. Neutral or alkaline soils can harbor the anthrax organism.

3. With acute anthrax, animals may live

as long as 24 hours. Chronic cases in animals except for the cutaneous form generally live from three to seven days.

4. Cutaneous anthrax, although potentially serious, allows more time for proper therapeutics.

5. Any suspected cases of anthrax must be reported to the State Department of Agriculture and the USDA.

6. Where antibiotics are not immediately available to treat a suspected case, the homeopathic simillimum should be dosed frequently in the drinking water.

7. Contact with the patient should be avoided until the test result is confirmed negative.

8. Once the diagnosis of anthrax is confirmed positive, antibiotic therapy is indicated.

The authors wish to acknowledge the assistance of Chris Davis, who obtained copies of homeopathic textbooks from the medical archives of the University of Michigan Library.

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