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Gangrenous Mastitis

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Gangrenous Mastitis. On Jan. 19, 1944, a 5-year-old Guernsey cow was presented at the Stange Memorial Clinic with no definite history. Examination revealed a badly infected udder with the right front and hind quarters highly necrosed. The necrosed cold area extended half way up the udder on the right side, and the tissue above this was highly inflamed. Crepitant swellings were found extending to the upper right lip of the vulva, forward ventrally to the sternum, and along the right side to about the fifth rib. Crepitant swellings were also present on the left side along the flank and forward to the ninth or tenth rib.

**Treatment**

The two teats on the right side were incised to provide drainage. Gas and a purulent hemorrhagic fluid escaped from them. Samples of the exudate were saved for bacteriological examination. As much milk and exudate as possible were removed from the udder. The left rear quarter was mildly involved, but the left front quarter appeared nearly normal. The cow was given 90 Gm. of sulfanilamide per os in capsules in an attempt to control the infection, but this treatment was not continued.

Bacteriological examination revealed the presence of the gas-former, *Clostridium welchii*, together with a hemolytic streptococcus and a staphylococcus. The presence of this gas-former accounts for the widespread crepitant swelling so characteristic in this animal.

On Jan. 21, the cow was prepared for an operation, and the operator removed the right front and hind teats together with most of the necrotic portion of the udder. Care was taken to keep within the necrotic tissue area. The purpose of this operation was to provide better drainage and to remove the necrotic tissue from which large amounts of toxic material were being absorbed as shown by the great depression of the animal. She was given 500 cc. of sterile dextrose solution intravenously as a detoxifying agent.

**Development of Symptoms**

There was not much change in the animal during the next 10 days except a gradual spreading of the necrosis of the udder, more emaciation and depression. The crepitant swelling still covered about the same area with perhaps a little spreading. The temperature was normal the first 3 days and then went up reaching a peak of 105° F. on the tenth day. The prognosis was so poor on the animal that not much treatment was given from this time on except to remove parts of the necrosing udder as it became necessary.

The cow remained alive for a remark-
ably long time considering the seriousness of her disease. One month from the date of entry, permission was received from the owner to administer euthanasia.

Lesions

Post-mortem revealed chronic purulent mastitis of the left quarters, metastatic focal abscesses of the lungs, valvular thrombosis of the right atrio-ventricular and pulmonary semilunar valves, and extensive thrombosis of the pulmonary artery. Samples for bacteriological study were taken from the udder of the dead animal. They revealed pure cultures of Corynebacterium pyogenes. This leaves a question as to which organism was the primary invader in this animal.

There has not been a great deal of specific research on Cl. welchii mastitis, and many of the things concerning it are more or less theoretical. It is believed that clostridia are secondary invaders occurring in conjunction with some other organisms. Staphylococci or C. pyogenes are quite often the primary invaders which produce tissue necrosis providing anaerobic conditions in which the clostridia can grow if present. Cl. welchii organisms are quite widespread in nature and may enter by way of the teat orifice or as a result of traumatism.

—W. F. Chapin, ’44

2 Malignant Melanoma in a Calf. On March 2, 1944, an 8-month-old male Aberdeen Angus calf was presented at the Stange Memorial Clinic with the history of a growth in the scrotum which had increased rapidly in size in the last two months. The growth was present but small when the animal was born. The animal was in good condition when presented at the clinic. Examination revealed that the neoplastic growth was located in the distal end and the walls of the scrotum.

The calf was cast, the scrotum shaved, and painted with tincture of iodine. An incision was made which completely circumscribed the upper part of the scrotum. By blunt dissection, each spermatic cord was isolated and divided with an emasculator. The testicles, though small, were not involved in the tumorous process. Severance of several bundles of connective tissue completed removal of the testicles, the neoplastic growth, and the attached scrotal sac. A sulfanilamide pack was placed in the wound, and the skin edges were brought into apposition with a continuous silk suture.

The neoplastic growth was circular with a diameter of 25-30 cm. Incision of the tumor revealed it to be firm and homogeneously black in color. Microscopic examination indicated that the tumor was malignant in nature. Diagnosis of malignant melanoma was based upon the presence of large amounts of melanin in the cells, the presence of neoplastic tissue in the lymphatics surrounding the growth, and the history of the rapid growth of the tumor. Presence of an extremely large amount of melanin in the cells made it impossible to accurately determine the kind of tissue involved upon tissue-section examination. That metastasis had occurred prior to the operation is highly probable.

The sutures and pack were removed 2 days after the operation. Infection was not apparent at this time. However, the calf had failed to eat its feed and showed a temperature of 103°F. On March 6, the calf was still off feed so a No. 10 capsule of equal parts ginger and nux vomica