

1942

Actinomycosis-Like Lesions Caused By Corynebacterium

R. P. Fisher

Iowa State College

Follow this and additional works at: https://lib.dr.iastate.edu/iowastate_veterinarian



Part of the [Large or Food Animal and Equine Medicine Commons](#), and the [Veterinary Pathology and Pathobiology Commons](#)

Recommended Citation

Fisher, R. P. (1942) "Actinomycosis-Like Lesions Caused By Corynebacterium," *Iowa State University Veterinarian*: Vol. 5 : Iss. 1 , Article 11.

Available at: https://lib.dr.iastate.edu/iowastate_veterinarian/vol5/iss1/11

This Article is brought to you for free and open access by the Journals at Iowa State University Digital Repository. It has been accepted for inclusion in Iowa State University Veterinarian by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

shallow, the pulse weak, and the temperature slightly elevated. A distention of the abdomen was present.

On rectal examination, the bladder was found distended. A catheter was passed. The urine obtained was light brown in color and somewhat viscid. The intestines were full and the rectum contained a large quantity of mucous. Peristaltic movements were not present. A tentative diagnosis of intestinal volvulus or stomach rupture was made.

A little later in the morning a stomach tube was passed and the mare was given one gallon of mineral oil and five pounds of magnesium sulfate.

That afternoon the mare died; and, on post-mortem examination, gastric rupture on the greater curvature of the stomach with an accompanying peritonitis was found.

It may be said that many similar clinical conditions are confused with sleeping sickness by the practitioner. In the summer of 1939, of 30 cases of "sleeper suspect" which were presented at the clinic, all except two were definitely diagnosed as not being equine encephalomyelitis. Disease conditions from varied etiological factors may produce symptoms that might be confused with those of brain lesions. Disturbances of the brain cause a variety of symptoms that range from maniacal excitement to stuporous depression; therefore, a positive diagnosis of the clinical condition is almost impossible to make. A careful differential examination will aid in the tentative diagnosis.

L. E. Fisher, '43

3 Actinomycosis—Like Lesions Caused By *Corynebacterium*. On February 11, 1942, a veterinarian was called to treat an eight month old purebred Hereford steer. The caretaker gave a history of a slowly developing enlargement posterior to the mandible. The condition was diagnosed as parotitis and the animal was treated with an organic iodide per orum.

A week later the veterinarian was called to treat an enlargement which had developed on the medial surface of the left

metacarpus. This enlargement proved to be an abscess and it was incised for drainage.

The enlargement in the mandibular region was later diagnosed on February 23, 1942, as probably being an actinomycotic process, and it was treated by oral administration of a commercial organic iodide. However, since the enlargement continued to increase in size, the animal was presented at the Stange Memorial Clinic on March 3, 1942. Symptoms noted at this time were a considerable enlargement posterior to and ventral to the mandible, and a slight dyspnea due to pressure on the pharynx.

The area over and around the swelling was prepared for surgery. After infiltrating the area with procaine, a sterile exploratory needle was inserted into the abscess and a sample of the purulent exudate was collected and sent to the laboratory for bacteriological study. This study proved the material to be negative for *Actinomyces bovis* but positive for *Corynebacterium pyogenes*.

A drainage incision was made into the abscess located ventral to the mandible, and two more incisions were made into the diffuse swelling posterior to the mandible. The pus contained in the abscesses was drained and the cavities were flushed with Lugol's solution, 2 percent. A seton was placed through the two posterior incisions to assure complete drainage, and post-operative care consisted of routine wound treatment. The owner at this time was informed of the hopeless character of the case because of the possibility of serious recurrence and metastasis of the abscesses. He was advised to dispose of the steer.

On March 9, 1942, the abscess on the medial aspect of the left metacarpus was again opened; no exudate was present but considerable connective tissue proliferation had taken place throughout the area. Further routine wound treatment was continued until March 13, at which time the case was dismissed from the clinic. Healing of the surgical incisions had occurred and the swelling in the mandibular region had receded to one-half its former size.

The steer re-entered the clinic on April 14, 1942. The abscess area posterior to the

mandible had again increased in size, and it was decided that complete extirpation of the abscess should be attempted. The owner was duly informed as to the seriousness of the radical surgery about to be performed. The animal was placed upon the operating table and the administration of nembutal intravenously was begun. The animal died before anesthesia was complete.

Post Mortem

An immediate necropsy was performed and extensive pathological processes were noted. Chronic purulent lymphadenitis was found in all the anterior cervical lymph nodes. The exudate contained within the abscessed nodes was of a thick consistency, creamy yellow in color, and without characteristic odor, thus typical of a *Corynebacterium* infection. Pulmonary lesions included chronic pneumonia and atelectasis of the apical lobes, and healed pleurisy with pulmonary adhesions between the lobes. From the swelling on the left metacarpus a fistulous tract was found to extend into the medullary cavity of the metacarpus where a chronic purulent osteomyelitis was evident. Material from the sublingual nodes was submitted to bacteriological examination and a pure culture of *Corynebacterium pyogenes* was isolated.

Conclusion

Corynebacterium pyogenes produces sporadic cases of chronic suppurative infections in cattle, swine, sheep and goats. In cattle the organism may produce a suppurative pneumonia, actinomycotic-like lesions or abscessing mastitis.

From the foregoing, the importance of an early differential diagnosis between actinomycosis and *Corynebacterium pyogenes* infection may be gathered. In many cases of actinomycosis the prognosis is favorable and treatment is successful. On the other hand, treatment of a chronic metastatic *Corynebacterium pyogenes* infection is usually futile, and an early diagnosis of the condition is important in order that the owner may realize a partial compensation by emergency slaughter of the animal affected.

R. P. Fisher, '43

4

Canine Infectious Papillomatosis.

On September 22, 1941, an eighteen-month old, male Cocker Spaniel was admitted to the Charles Henry Stange Memorial Clinic showing papillomata between the toes of both fore-feet. No history was obtained as to the rate of growth or the length of time the warts had existed.

It was decided that an attempt should be made to remove the warts by repeated applications of trichloroacetic acid topically, and intravenous injections of sodium iodide. Iodine therapy has been used with a fair degree of success in treating related conditions, such as oral papillomatosis in puppies, and it also seemed indicated in this condition. The injections of 10 grains of sodium iodide were made at three day intervals, and trichloroacetic acid was applied to the areas daily for a period of one week. At the end of this time the warts had practically disappeared. A slight, moist eczema developed between the toes of the affected feet and this was treated with daily applications of tannic acid and boric acid powder. Two weeks after the treatment was begun the dog was discharged from the hospital, apparently healed.

Some few weeks later, this same patient was returned to the hospital by its owner with the complaint that the papillomata were recurring. Upon examination the second time, papillomata were seen between the toes and on the foot-pads of both fore-feet. A diagnosis of infectious papillomatosis was made at this time.

Surgical removal of the warts seemed indicated and the patient was prepared for surgery. The surgical area of both front feet was shaved, cleaned, and sprayed with tincture of metaphen. A one percent metacaine solution was injected into the area as a local anesthetic. An incision was made around the base of each papilloma, and each was peeled from the underlying epithelial tissue with a hemostat. Several silk sutures were taken in each of the cavities left by removal of the papillomata—three from the