Hemorrhagic Enteritis in a Cow

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fistula. A small blunt pointed probe was then introduced into the fistula, and the tract was found to run posteriorly and medially for about one inch. The fistulous tract was enlarged with a small scalpel and the surrounding necrotic tissue curetted. An opening communicating with the fistula was made on the medial side of the digit and a seton secured between the opening to facilitate drainage. A bipp pack (bismuth subnitrate, 1 part; iodoform, 2 parts; liquid petroleum, 15 parts) was bandaged in place over the wounds. On the following day the bandages were removed. The leg was soaked in hot phenol-formalin solution (phenol 2 oz., formalin 3 oz., water 3 oz.—one ounce of this mixture to each gallon of warm water) for one-half hour and dressed with a bipp pack. The same soaking procedure was repeated daily for the next four days, but with no apparent improvement of the condition. Again the animal was placed on the operating table. Upon examination, it was decided that amputation of the medial claw was necessary since the joints and surrounding tissues of the first and second medial phalanges were badly infected. A tourniquet was placed below the fetlock joint, and the interdigital tissue and the tissue about one inch below the dew claw of the medial digit were thoroughly infiltrated with two percent procaine. An incision was made between the claws from the anterior corner of the interdigital space to an inch below the dew claws. This separated the medial and lateral claw. An obstetrical saw was introduced into the incision as far up as possible and the medial claw amputated at right angles to the long axis of the first phalanx. During the sawing process, the saw was kept from heating by drawing it through cotton soaked in antiseptic solution. This is necessary to prevent the hot saw from damaging the end of the bone with consequent formation of a sequestrum. Another bipp pack was applied, the area tightly bandaged with cotton gauze and muslin, and the tourniquet removed. The dressings were left in place for 48 hours so complete hemostasis would be assured.

After-care consisted of cleansing the wound with warm two percent therapogen and redressing with a bipp pack every two days. Ten days following the operation, granulation tissue had covered the end of the incised bone. The dressings were then discontinued and the wound was dusted with boric acid and urea powder. By this time healing had progressed sufficiently, so the animal was discharged.

### Amputation Successful

Removal of the claw in cases of foot-rot that do not respond to routine wound treatment has been found to be the most satisfactory procedure. This may at first appear to be too drastic but clinical evidence proves otherwise. By this method, both the infected tissue and infected joint are removed. Reports from owners of animals that had amputation of one of the claws show that the animals are not incapacitated by this loss and in a surprisingly short time handle themselves as well as they formerly did. Treatment of cases like the one described without amputation of the infected digit entails a long process. Affected animals go off feed and lose weight rapidly. Milking dairy cows drop quickly in milk production. The longer the infection remains, the more toxic the animal becomes. Extensive bone necrosis may develop, which terminates in death of the animal.

—David Unsg, fall '43

### Hemorrhagic Enteritis in a Cow.

On December 21, 1942, a three-year-old Guernsey cow was presented at the Stange Memorial Clinic. Several days previously the Iowa State College ambulatory clinic had been called by the owner to treat the cow for bloody diarrhea. The history obtained by the ambulatory clinician was that the entire herd was being fed ensilage and shredded corn stover, and that this was the only cow affected.

The cow was depressed and was passing clots of whole blood. The tucked-up flanks indicated abdominal pain. One-half ounce of chloral hydrate was administered per orum as acetonemia was suspected. To
control the diarrhea, one No. 10 capsule of tannic acid was given. Six similar capsules were left with the owner to be given over a period of three days. The owner was also advised to discontinue feeding the coarse roughage.

Several days later the ambulatory clinic was again called to observe the patient who had become worse. She was given another one-half ounce dose of chloral hydrate and the owner was advised to bring her and another cow, who was developing similar symptoms, to the Stange Memorial Clinic.

**Symptoms**

Both animals when presented at the clinic showed only a slight diarrhea. Acetonemia tests were slightly positive. However, the cow which had been first affected, showed a marked central nervous disturbance manifested by muscular tremor, weakness, and nervousness. 250 cc. of calcium gluconate with magnesium were given intravenously in an attempt to control the nervous disturbance. It was thought that the low grade roughage may have affected the calcium-magnesium balance. Two quarts of molasses in water were given by way of a stomach tube to correct the acetonemia. Later in the day an improvement was noticed; the eyes were brighter and the nervous symptoms had subsided.

The second cow was treated similarly. She recovered in a couple of days and was sent home.

The next morning the first cow was down, and displayed nervous symptoms. She was helped onto her sternum and was given 200 cc. of dextrose solution (50%) intravenously. Further treatment consisted of one-half ounce of chloral hydrate and one pint of molasses in water by way of a stomach tube. The patient seemingly improved with this treatment. Later in the day the nervous symptoms had reappeared and the cow was in lateral recumbency. The head and neck were extended and the legs made spasmodic walking movements. Another 300 cc.

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of calcium gluconate were given intravenously.

The following morning the condition of the cow was much worse, the nervous symptoms being greatly exaggerated and a general weakness evident. Two ounces of chloral hydrate were given by way of a stomach tube to produce sedation.

**Post Mortem**

During the morning of December 24, the cow was so near death that euthanasia was carried out. Necropsy revealed hemorrhagic enteritis, cloudy swelling of the kidneys, and fatty degeneration of the liver. Petechial hemorrhages were present on the gall bladder, mucosa of the urinary bladder, and on the pericardial sac. The mucous membranes in general showed a slight anemia with some cyanosis.

Cultures from the liver, spleen, and heart blood were negative for bacterial infection. The temperature never rose over 101.6 while the cow was in the hospital.

The death of this animal was probably due to a toxemia which can be attributed indirectly to the large amounts of roughage fed. The intestinal mucosa was traumatized by the coarse particles of roughage which had not been broken down in the rumen. The mechanical injury to the intestines resulted in the opening of many atria for the absorption of toxins. Also large amounts of blood lost through the intestinal tract no doubt lowered the resistance of the animal to the toxemia.

—H. H. Rohwer, fall '43

**Lymphocytomatosis in a Dog**

A four-year-old male Scottish Terrier, was presented at the Stange Memorial Clinic. Examination of the dog revealed an acute inflammatory swelling between the prepuce and the right hind leg, and an enlargement of the superficial inguinal lymph nodes. Nothing indicated the cause of the inflammation present.

Questioning the owner revealed the following facts:

1. A slight enlargement on the side of the prepuce had been noticed about five weeks before.
2. Six days before, while giving the dog a bath, the involved area appeared to have enlarged.
3. The dog had been examined by a veterinarian who advised bringing it to the clinic.
4. The enlargement had increased rapidly in size in the five days prior to presentation at the clinic.

The acuteness of the inflammation suggested an infectious etiology and diathermy treatments were instituted in an effort to dispel the cause or to point it. Treatments were for periods varying between fifteen and thirty minutes for the first twelve days of hospitalization. On the thirteenth day the acuteness of the inflammation had disappeared and the enlargement, which had increased in size one hundred percent during the hospitalization and which also involved the left side of the prepuce, began to take on the appearance of a tumor.

**Blood Count**

Three days after the dog was presented, a blood count was made as an aid in establishing a diagnosis. The red cell count was 7,500,000 and the white cell count was 11,460. At the time the tumor formation was first suspected, a differential white cell count was made which revealed 89.5 percent polymorphonuclear granulocytes both mature and immature forms, 4 percent monocytes, and 6.5 percent lymphocytes. A complete blood count on the following day resulted in a red cell count of 5,140,000 and a white cell count of 18,640. The differential was 87 percent polymorphonuclears, 7 percent monocytes, and 6 percent lymphocytes.

These blood counts suggested an atypical leucemia and on the fifteenth day after hospitalization a biopsy specimen from the enlargement was taken. Frozen microsections revealed a malignant lymphoid tumor. The owner was informed that the condition was incurable and euthanasia was advised.

Post mortem examination revealed the following: “Lymphocytomatosis involving...