Empyema in the Bovine

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bilateral cataracts. It was being admitted for the purpose of surgery.

Prior to surgery, both pupils were dilated with atropine sulfate three times daily for three consecutive days. Antibiotic ophthalmic ointment was also applied to both eyes three times daily for three consecutive days to reduce the bacterial count.

The animal was anesthetized with Pentobarbital Sodium, (Nembutal) and the area around the eye was clipped with a No. 40 clipper. Morugent ophthalmic ointment was applied to the eye, and the operative area was scrubbed with surgical soap and then flushed with 1:5000 aqueous Zepharin solution. The conjunctival sac was also irrigated with Zepharin solution. The operative area was draped with a plastic shroud. Only one eye was operated on at a time, but the procedure described is the same for both.

Exposure of the eye was accomplished with a lateral canthotomy and use of an eye speculum. A corneal section was made by means of a short incision through the cornea at the limbus and then enlarged by the use of corneal scissors to divide the dorsal one-third to one-half of the cornea at the limbus. A peripheral iridotomy 12 mm. wide was performed through the dorsal aspect of the wound. An equatorial capsulotomy 12 mm. wide was performed through the iridotomy incision. The nucleus of the lens was expressed by means of pressure placed on the ventral aspect of the eye. The remaining cortical material was removed from the capsule by means of a lens spoon. The capsule was irrigated with normal saline. The plastic lens was slipped into the capsule and then centered. The iris was smoothed back into position. The corneal section was closed with three half-depth corneoscleral sutures of 6-0 silk. The canthotomy incision was closed with subcuiccular sutures of 4-0 chromic catgut. Atropine sulfate ophthalmic ointment and a broad spectrum antibiotic ophthalmic ointment was applied and then reapplied subsequently five times daily for 5 days. The animal was maintained on 200,000 units of penicillin and 0.25 Gm. of dihydrostreptomycin (lcc. of combiotic) for 7 days. The corneal sutures were removed in 6 days.

Keratitis was severe for twenty days. Neomycin-hydrocortisone ophthalmic ointment was used to overcome this.

Four to five weeks after the operation, the cornea had cleared leaving a slight opacity remaining at the site of the corneal section. Pupillary reflexes were present, although reduced in magnitude from the normal. A slight wrinkling of the anterior lens capsule was noted.

The owner reported at this time that the dog had begun to run and play again. She had not done this since the time of the cataract maturity.

The second eye was operated on in an identical manner at 6 weeks. Progress on this eye was similar, but more rapid than in the first eye.

During a brief interview over the telephone on October 27, the owner reported that the dog races around the house during the day. It no longer bumps into things when in unfamiliar territory. The animal does not have good peripheral vision, but rather seems to see things that are straight ahead. The owner stated that corneal opacity is limited to the periphery of the eye and is gradually decreasing. The dog seems to show no irritation due to surgery or the lens implant at this time.

Donald Lyon '56

Empyema in the Bovine. On May 27, 1955 an 8-year-old Angus cow was admitted to Stange Clinic as a “hardware suspect.” The only history available at the time was that the animal had been treated for pneumonia about one month previously.

Physical examination revealed a temperature of 101.8°F, decreased vesicular sounds in the lower areas of all the lobes of the left lung, harsh emphysematous sounds in the upper part of the left lung and a complete lack of respiratory sounds over the entire right lung. Examination of the thoracic area by percussion revealed...
hyperresonance over the left lung and dullness over the right lung, especially the lower borders. An expiratory dyspnea was present. Rumen movements were weak and irregular. The organ appeared to be packed with ingesta.

Blood studies showed a marked anemia with the red blood cell count about two-thirds that of the normal amount. The white blood cell count was low with the ratio of mature to immature neutrophils almost reversed. Exploratory puncture of the right pleural cavity yielded a thin, foul smelling, yellowish brown exudate upon aspiration with a syringe.

An area over the right third to fifth intercostal space along the ventral border of the lung was clipped, shaved and disinfected. A 12 gauge, 2 inch needle was introduced into the pleural cavity and about one thousand cubic centimeters of pus was drained out. About 5 inches of plastic tubing was inserted through the needle and into the pleural cavity until fluid pus again began to flow out. An additional 500 cc. of exudate was removed. One thousand cubic centimeters of saline was injected into the pleural cavity. This fluid, mixed with pus, was drained off with a 20 cc. syringe and a 14 gauge, 4 inch needle. Twelve million units of penicillin and 4 Gm. of streptomycin were instilled into the pleural cavity.

The following day the animal seemed to be breathing easier and respiratory sounds could be heard on auscultation over almost the entire right lung. Two million units of penicillin and 2¹⁄₂ Gm. of streptomycin were administered intramuscularly.

On the second day post operative the patient seemed to have more difficulty breathing. Two million units of penicillin and 2¹⁄₂ Gm. of streptomycin were again administered intramuscularly.

On the third day after drainage of the thorax another exploratory puncture was made along the lower border of the right lung at the eighth intercostal space. Pus was aspirated, so a cannula was introduced into the pleural cavity at this point. Several pints of exudate were removed. Twenty five hundred cubic centimeters of saline were injected into the pleural cavity and removed. Six million units of penicillin and 3 Gm. of streptomycin were mixed with 250 cc. of saline and introduced through the cannula. The cannula was then removed.

The following day an attempt was made to introduce a permanent drainage tube into the pleural cavity but no pus could be withdrawn through the cannula. Saline could not be injected through the cannula, so 2,000,000 units of penicillin and 3 Gm. of streptomycin were infused and the skin incision was closed with one suture.

Two days following the unsuccessful attempt to introduce a drainage tube the animal was given 2,000,000 units of penicillin and 2¹⁄₂ Gm. of streptomycin intramuscularly. Two days later the temperature of the animal was near normal, she was eating and respiration was greatly improved. The animal was discharged with a very guarded prognosis because of the possibility of more abscesses and pus remaining in the thoracic cavity. If much of this material were still present in the thoracic cavity, it could easily lead to a pyemia, septicemia and death of the animal.

Charles Sheldon '56

Malignant Lymphoma in a Bovine. On July 20, 1955, a 7-year old Holstein cow was admitted to the Stange Memorial Clinic at Iowa State College, as a possible “hardware” suspect. The patient was badly bloated at the time of admittance. Rectal examination indicated a marked enlargement of the inguinal lymph nodes and right kidney. The blood count of the animal indicated a marked leucocytosis, 25,680. The differential count revealed 16,900 lymphocytes, 4,700 stabs, 3,800 segments and 200 monocytes.

A laparotomy was performed and tum-