1941

Hydrops Amnii

J. W. Carey
Iowa State College

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loading and no gas formation such as occurred when it was pail-fed.

Normal

In the normal digestive tract of cattle the cecum is at the junction of the ileum with the colon. The cecum extends backward and upward along the right flank with its rounded blind end at the right side of the pelvic inlet. The colon should be about 35 feet in length in the adult with the diameter at first being about that of the cecum (5 inches), but soon diminishing to about 2 inches. The colon begins as a direct continuation of the cecum, runs forward a short distance and turns dorsally and backward above the cecum to the posterior part of the sublumbar region. Then it runs forward again parallel with the above part to the region of the second lumbar vertebra, then backward once more and is continued by the spiral part. The terminal part of the colon leaves the spiral mass, passes forward to the level of the great mesenteric artery and then runs backward to join the rectum. In the month-old calf the colon should normally be about 7 feet long, but in this calf the length was not over 4 feet.

Abnormal

From what was seen at necropsy, it is believed that the spiral part of the colon was entirely missing in this calf, for after the colon left the cecum it continued as a greatly enlarged structure for approximately 20 inches in an S-curve, and terminated abruptly in a blind pouch about 6 inches in diameter, in contrast to a normal colon diameter of 2 inches or less. In the mesentery which supported this blind pouch in approximately the position from which the colon normally leaves the spiral portion of the colon, the terminal portion of the colon began, and was continuous with and patent to the rectum. Lesbre in "Traite de Teratologie" mentions two somewhat similar cases, in one of which a section of the intestine was absent just posterior to the ileum and in the other a section was absent just anterior to the rectum.

The embryological development of the colon is that of an elongating pocket. It begins at the rectum and is continuous to Meckel’s diverticulum which is a short distance anterior to the cecum. Here the intestine is a part of the yolk stalk. The development of the spiral portion of the colon results from a rapid growth in length in a small space. It has no natural demarcation from the remainder of the colon embryologically. There is apparently nothing which might easily become malformed.

Cause

The cause of this anomaly of development, atresia coli with agenesia of the spiral portion, can only be theorized. There is no previous record of anything like this in the herd, therefore it is probably a non-heritable malformation due to some abnormal influence during intrauterine life. One possible cause is increased intrauterine pressure due to a deficiency in the amount of amniotic fluid. In such a condition the fetus is poorly protected against external pressure. Another possible cause may have been the development of an increased intra-abdominal pressure within the embryo which caused the non-development of the spiral portion of the colon.

—C. J. Mickelson, '41

Hydrops Amnii. Dr. J. C. Carey, practitioner at West Liberty, Iowa, reports the following case of hydrops amnii in a cow.

He obtained the following history from the owner. The cow had developed an enormous increase in abdominal circumference during the two weeks preceding the visit, but this increase had been most perceptible the last three days, during which time she had not eaten but had drunk a great deal of water.

The case was diagnosed as distention of the rumen with possible impaction. On the first day the cow was treated by injecting into the rumen with the Cahill
stomach tube, a laxative, carminatives, and stimulants in warm water. The owner was informed that if no favorable results were obtained, a rumenotomy soon would be necessary.

The following day the cow was unable to arise because of great abdominal distention. Using local anesthesia, a rumenotomy was attempted. The organ exposed by the incision in the left paralumbar fossa did not have the usual appearance of the rumen, however, Dr. Carey proceeded to suture it to the skin. Upon incising the organ it was found to be the uterus and an estimated 50 or 60 gallons of fluid were evacuated from it. The operation was completed with a caesarean section and removal of a seven month's fetus. The cow was able to arise but died in twenty-four hours.

_J. W. Carey, '41_

6

**Esophageal Diverticulum.** On Dec. 10, 1940, a black 7-year-old jennie mule was presented to the Iowa State College clinic for treatment. The animal was in a very weak and emaciated condition. Its pulse was 44, respiration 15, and temperature 99.6°.

The only history given was that the mule had been off feed for about two years, and had gradually been losing weight. The condition had become more severe recently, and the animal was incapable of doing a hard day's work. The upper respiratory passages were examined by passing a stomach tube through each nostril with no apparent difficulty. The teeth were examined and found to be in good condition. A blood count was made and the results were: red blood cells—6,930,000, and white blood cells—13,600. A fecal examination was run, and many Strongylidae ova were found. Intradermal mallein and tuberculin tests were administered. Retching was noticed after the administration of ten ounces of Phenazoid by way of a stomach tube, and vomition soon occurred. After reading the mallein and tuberculin tests which were negative, a tentative diagnosis of esophageal diverticulum was made. The animal was kept in the clinic for seven days, during which time she continued to eat and drink, but soon vomited the food after each ingestion. Since no improvement could be seen after seven days, and the animal continued to weaken, the owner's permission was obtained to destroy the animal. The animal was electrocuted with 115 volts of alternating current, Dec. 18, and an autopsy performed.

**Necropsy**

The post-mortem examination revealed a greatly enlarged funnel-shaped esophagus with the neck of the funnel at the pharynx. The esophagus at the pharynx admitted three fingers with ease, the maximum dilatation being a sac-like dis- tention which was located just anterior to the diaphragm. This portion was filled with soft, well masticated food, and a considerable amount of gravel, the particles being about two to three millimeters in diameter. The mucosa in the dilatation was greatly thickened and cornified in places. In other places the mucosa was eroded and thin, or almost absent. At the diaphragm and the stomach entrance, the lumen was nearly normal in size. The only other post mortem finding of note was verminous thrombosis of the right branch of the anterior mesenteric artery.

The antemortem diagnosis of esophageal diverticulum was confirmed by the post mortem examination.

_D. C. Van Howeling, '42_

7

**Test Tube Calf.** Dr. W. C. Merritt, Fort Dodge, Iowa, who has been doing some work in artificial insemination, sent us this picture of **Test Tube Ormsby Sir Bessie**, his first test tube calf, born Dec. 22, 1940. This calf was sired by **Femco Sir Bessie Cecelia 752588** owned by Mr. Herbert Porter (on the right in the photograph) and the dam was **Verla Posch**