

normal and diseased tissue. The part distal to this line becomes gangrenous and may slough off. The tail, ears, and limbs are the parts so affected. The cause of sloughing dry gangrene is attributed to the ability of ergot to stimulate the myoneural junctions of the motor nerve fibers of the parasympathetic nervous system. This results in contraction of the peripheral arterioles with loss of circulation to the distal part and gangrene of the extremity. Also, endothelial damage may result in thrombus formation with vascular occlusion and gangrenous necrosis.

On Feb. 12, 1959, a 500 pound heifer was presented to the clinic for diagnosis and treatment. It was noted that the right rear foot had sloughed at the pastern joint. Phalanges II and III had been sloughed. There was evidence of an indented line and beginning necrosis of the distal part of the tail. The patient appeared bright and alert. There was no history of ergotized grain, hay, or of fescue being fed. The heifer had been turned into a picked corn field with some other heifers. No symptoms of ergotism had been noted in the other heifers. Ergotism was diagnosed.

Treatment consisted of the application of a sulfanilamide pack to the stump of the limb and placing a special rubber boot over the pack and stump. The leg stump progressively dried and began to heal. On Feb. 22, 1959, the patient was dismissed.

E. Dean Stocker, '60

4

Correction of Impaction of the Small Colon in a Shetland Pony by Means of a Laparotomy. The small size of the Shetland pony presents problems in diagnosing and treating impaction of the cecum and colon. History and symptoms are similar to those presented by larger breeds of horses but the difficulty in performing a rectal examination limits the accuracy of diagnosis and effectiveness of therapy. An exploratory laparotomy offers a method by which this disadvantage can be overcome.

This is illustrated by a two year old Shetland mare, weighing approximately

300 pounds, that was admitted to the Stange Memorial Clinic on the evening of February 20, 1959. This mare was one of a large band of brood mares being wintered on dry hay. The owner had first noted colic symptoms 48 hours prior to admittance to the clinic. The pony was treated by the local veterinarian with injectable cathartics but no response was noted. When examined at the clinic the patient showed abdominal pain and tympany. She was depressed and stood with her head held very low. Often she would lie down and roll. Switching of the tail, stamping of the feet, and straining were noted. The abdomen showed marked distention and tympany. The mucous membranes were dark red in color. The respirations were shallow and rapid. Due to the small size of the animal it was impossible to perform a rectal examination.



Shetland with impaction.

A $\frac{3}{8}$ inch diameter stomach tube was passed but only a small amount of foul smelling gas was expelled. One and one-half ounces of Turcapsol (Pitman-Moore Co.) mixed with one and one-half quarts of mineral oil was then administered via the stomach tube. One thousand ml. of Normal Electrolytes with 5% Dextrose (Jen-Sal) was administered intraven-

ously. The patient was tranquilized with 75 mg. of promazine hydrochloride (Sparine, Wyeth) followed later by 125 mg of promazine hydrochloride administered intravenously. The patient was restrained in the left lateral recumbency and the right flank area was clipped, shaved, and scrubbed with liquid soap. Seventy percent isopropyl alcohol was applied to the operative site and allowed to dry. The area was draped with plastic shrouds. An eight inch incision was made through the skin, abdominal muscles and peritoneum. The peritoneal cavity was explored and a firm, cylindrical mass about 5 inches long and 3 inches in diameter could be palpated in the small colon. Manual pressure was applied to the mass and it was broken down and moved along the intestinal tract. The colon was not incised nor was it brought out through the incision. One and one-half million units of procaine penicillin in aqueous suspension was placed in the peritoneal cavity. The peritoneum was immediately sutured with simple interrupted No. 1 chromic catgut sutures. One and one-half million units of procaine penicillin in aqueous suspension was placed on the surface of the incised muscles and on the peritoneum. The muscle layers were very friable and pulled apart, but simple interrupted No. 1 chromic catgut sutures were placed where ever possible in the fascial sheaths to draw them into apposition. The subcutaneous tissue was sutured with simple interrupted No. 1 chromic catgut sutures. The edges of the skin were brought into apposition with continuous interlocking nylon sutures except for two simple interrupted sutures at the bottom of the incision to provide for drainage if necessary. A many tailed bandage completely covering the abdomen was used to aid in holding the wound edges together. One and one-half million units of procaine penicillin in aqueous suspension was administered intramuscularly. The patient was allowed to walk back to her stall during which time gas was passed through the rectum.

The following morning the tympany and colic were no longer evident; however, the pony was still depressed and

the mucous membranes quite congested. The dyspnea that was shown the night before had subsided. The patients temperature was 101.0° F. The pony was passing mineral oil and flatus, but no feces. She made some attempts to nibble at hay and drink water. One thousand ml. of Normal Electrolytes with 5% Dextrose (Jen-Sal) containing 5 ml. of Vitamin 'B' Complex (Norden) was administered intravenously. Fifteen hundred units of tetanus antitoxin was administered subcutaneously and one and one-half million units of procaine penicillin in aqueous suspension was administered intramuscularly. That afternoon a considerable quantity of firm fecal balls were passed. On the second post-operative day the temperature was 101.7° F. and the mucous membranes were a rose pink color. The feces were normal in quantity and consistency and the pony ate small amounts of hay and oats. One and one-half million units of procaine penicillin in aqueous suspension was administered intramuscularly. From the third to the eighth post-operative day the patient was given one and one-half million units of procaine penicillin per day in aqueous suspension intramuscularly. The temperature during this period dropped from 101.7° F. to 99.8° F. The many-tailed bandage was removed on the fourth post-operative day. At this time the incision was healing by primary union and only one small serum pocket was noted ventral to the incision.

The pony continued to improve in attitude and appetite and the feces continued to be normal. Daily exercise was given and on the eighth post-operative day 5 ml. of Ferrextran (Ft. Dodge) and 5 ml. of Crude Liver Injection (Vitamix Corp.) was administered intramuscularly. The pony was discharged on March 2, 1959 with instructions to the owner to remove the skin sutures in two days.

Abdominal surgery in the equine is not done routinely; however, where conditions warrant, it can be used to advantage. In the above case emphasis was placed on speed, asepsis, and proper surgical procedure to correct impaction of the small colon.

Richard W. Jones, '59