

the drugs used were not high enough, Thus the dog became further weakened and finally succumbed.

Death resulted from acute hemorrhagic pancreatitis and acute congestive heart failure. This was the result of myocardial degeneration and excessive cardiac exertion rather than the pancreatic atrophy or diabetes mellitus.

—Herb Lederer '58

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Successful Equine Cesarean Section.

Cesarean section in the mare may be indicated in pelvic fractures with exostosis, transverse dorsal or transverse rotated bicornual pregnancies and rupture of the prepubic tendon. In these conditions the dam may be sacrificed to save the life of the fetus, as successful cesarean sections are rare in the mare. Anderson and Wilkinson (1948) and Farquharson and Delehanty (1952) have reported cesarean sections in the mare in which the dam survived the operation. Undoubtedly, many successful equine cesarean sections have not been reported. With modern surgical techniques, asepsis, anesthetics, and antibiotics this operation in the mare should, if skillfully performed under proper conditions and with adequate help, be more successful. This would be especially true if the condition causing the necessity for a cesarean operation was diagnosed early or even before the onset of parturition.¹

On April 4, 1958, a 4-year old Shetland mare was admitted to Stange Memorial Clinic with the history of unsuccessful labor the previous night. A partial embryotomy had been performed. Physical examination revealed an edematous and inflamed vulva and vagina which would barely allow passage of the hand and forearm. The cervix was dilated and the animal was in a state of severe shock and exhaustion.



Six days post-operative; note edema of the underline and the low incision site.

The patient was prepared for a cesarean section and anesthetized with Equitol² to produce the proper relaxation of the abdominal muscles. A 12-inch incision was made in the lower left flank region through the skin, fascia and muscles. This particular area was selected because abdominal ballottement revealed the fetus in the lower left flank region, the large cecum on the right side and the low incision provided for drainage of excessive edema which occurs in the equine species when there is tissue trauma. The peritoneal cavity was opened and the gravid uterus exposed. An 8-inch incision was made in the uterine wall. The dead fetus was removed with fetal membranes intact. A continuous inverting suture with No. 3 chromic cat gut³ was used to close the incision in the uterus. No. 3 Permalon⁴ was used to suture the peritoneum, muscle and fascia, and the skin. A continuous everting suture pattern was used on the peritoneum, simple continuous on the muscle and fascia, and an interrupted everting pattern on the skin. The peritoneal cavity was open for approximately 20 minutes.

The mare was returned to the boxstall in a comatose state. Fifteen-hundred units of tetanus antitoxin⁵ was given subcutaneously and 10 cc. of Combiotic⁶ was given intramuscularly.

Four hours following the surgery the mare was up on her feet. Five-hundred cc. of whole fresh blood, 500 cc. of normal electrolytes and 5 per cent dextrose⁷, and 500 mgs. Terramycin⁸ were given intravenously.

On April 5, 1958, the patient's temperature was 102.6° F. Bowel movements were normal and the appetite was returning to normal. The sutures were in place, edema was evident at the incision site, and abdominal pain was manifested by the reluctance of the mare to move. The patient's hooves were soaked in cold water for 20 minutes (repeated on April 7 for a total of two treatments) and 20 cc. of A - H solution⁹ were given subcutaneously to avert a secondary laminitis.

The normal electrolytes and 5 per cent dextrose, as well as 500 mgs. Terramycin, were administered again and repeated at 12 hour intervals for a total of four treatments. Ten cc. of B - Sol¹⁰ were administered intramuscularly. Five cc. of Combiotic were given intramuscularly and repeated every 24 hours until the temperature was normal. The uterus was palpated per vaginum and found to be distended with a thick bloody exudate. Five hundred mgs. of Polyotic¹¹ were infused into the uterus. Sulfathiazole ointment¹² was liberally applied to the hot, inflamed and edematous birth canal.

On April 6, 1958, the mare's temperature was 101.6° F. and she appeared more alert than the day before. She readily accepted freshly-pulled green grass and responded to brushing. Upon palpation the uterus was found to be approximately one-half the size it was 24 hours previously. An estimated 500 cc. of a thick bloody exudate were aspirated from the uterus. Two Tetracycline bolets were placed in the uterus. The inflammation and edema of the birth canal were greatly reduced and sulfathiazole ointment was applied to this area. Edema of the underline was evident, the sutures were still in place and no symptoms of laminitis were noticed.

On April 7, 1958, the mare's temperature was 101.5° F., appetite was nearly normal, and bowel movements were normal. The mare was turned loose in a bluegrass pasture for approximately 6 hours daily to provide ample exercise and to help reduce the edematous swelling of the underline.

On April 14, 1958, some of the skin

sutures were removed. The incision remained in apposition and an area of drainage along the ventral border of the incision was noted.

On April 16, 1958, the remaining sutures were removed and the patient was discharged from the clinic.

—James Maxted '59

1. Roberts, S. J. *Veterinary Obstetrics and Genital Diseases*. Ithaca, New York. 1956.
2. Equitol, Allied Laboratories Inc., Indianapolis, Ind.; each 500 cc. contains chloral hydrate, 21.3 Gm., pentobarbitol, 48 Gm., and magnesium sulfate, 10.6 Gm.
3. No. 3 Chromic cat gut, Jensen-Salsbery Laboratories Inc., Kansas City, Mo.
4. No. 3 Permalon, Diamond Laboratories, Des Moines, Iowa., synthetic suture material.
5. Tetanus antitoxin, Allied Lab. Inc., Indianapolis, Ind., 1500 units per vial, equine origin.
6. Combiotic, Corn States Lab., Omaha, Nebr.; each 2 cc. contains 400,000 units procaine penicillin G and .5 Gm. dihydrostreptomycin.
7. Normal electrolytes and 5% dextrose, Jen-Sal Lab. Inc., Kansas City, Mo.; each 1000 cc. contains meq. of: Na, 144.7, Ca, 4.95, K, 10.2, Mg, 3.2, Cl, 103.5, acetate, 48.4, bisulfite, 19.2, and 5 Gm. dextrose.
8. Terramycin, Pfizer, New York, N. Y.; contained 500 mg. oxytetracycline.
9. A - H solution, Jen-Sal Lab., Kansas City, Mo.; each cc. contains dimethyl aminoethoxymethyl benzyl-pyridine succinate, 11.36 mgs.
10. B - Sol, Fort Dodge Lab., Ft. Dodge, Iowa; each cc. contains thiamine HCl, 10 mg., riboflavin, 2 mg., panthenol, 50 mg., nicotinamide, 100 mg., and pyridoxine .2 mg.
11. Polyotic, Lederle Div. of Cyanamid, New York, N. Y.; contained 500 mg. soluble tetracycline.
12. Sulfathiazole ointment, Jen-Sal Lab. Kansas City, Mo., contains 5% sulfathiazole.

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Plating a Compound Fracture of the Right Metatarsus in the Equine. On February 7, a 1-year-old Shetland pony was admitted to the Stange Memorial Clinic with a history of being found in the pasture with a fractured leg.

Upon examination, the animal was found to have a compound fracture of the right metatarsus, the site of the fracture being approximately at the center of the shaft. The distal end of the proximal fragment was protruding through the skin at the medial side of the metatarsus. Radiographic examination showed