Flotation therapy for management of calving paralysis following dystocia in a Piedmontese cow
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The most common cause of dystocia in bovine patients is feto-maternal disproportion. In these cases, damage to the sciatic and obturator nerves in the pelvic region may result in hind limb paresis or paralysis. Cases of calving paralysis can be managed conservatively with glucocorticoids, non-steroidal anti-inflammatory drugs, and tincture of time, however, prolonged recumbency in bovine patients often leads to ischemia and muscle necrosis which results in a poor prognosis for recovery.

A 9-year-old Piedmontese cow was presented to the Michigan State University Veterinary Medical Center for a dystocia of over 12 hours duration. Vaginal examination revealed the fetus was in a cranial, dorso-sacral presentation with normal posture. Assessment of fetal viability including attempts to elicit suckle and pedal withdrawal reflexes were unsuccessful. Vaginal delivery was attempted using a fetal extractor and copious amounts of water-based lubricant. The fetus became hip-locked and 90 degree rotation of the fetus resulted in successful resolution of the hip-lock and delivery of a 136 pound, non-viable fetus. However, during delivery, the cow became recumbent and was unable to rise following parturition.

Dexamethasone (60 mg IM) was administered immediately following parturition to reduce inflammation due to dystocia. The patient was moved to a deeply bedded stall and rotated side-to-side every two hours overnight. No improvement in hind limb function was noted at 18 hours after parturition and flotation therapy was initiated. The patient was placed in the AquaCow flotation tank (AquaCow Rise System, Rodding, Denmark) and was able to stand once water was added to the tank. Dexamethasone therapy was continued at a dose of 60 mg IM once daily for three days and meloxicam was administered at 1 mg/kg PO every other day.

The patient remained in the flotation tank for 48 hours at a time with 24 hours of rest in between flotation sessions spending a total of 96 hours in the flotation tank over five days. During treatment, she gradually regained function of her hind limbs and was able to stand on her own at seven days postpartum. At eight days postpartum, the patient was able to walk onto a trailer and return home. Although flotation tank management of calving paralysis cases can be time consuming and labor intensive, early intervention can decrease muscle ischemia and necrosis leading to improved case outcomes and return to productive life for bovine patients.

Keywords: Dystocia, calving paralysis, flotation therapy