

## **Dystocia because of uterine torsion complicated by perosomus elumbis in a stillborn Angus calf resulting from a consanguineous mating**

Riley E. Thompson,<sup>a</sup> Sam Lawton,<sup>a</sup> Jessica L. Petersen,<sup>c</sup> Alyssa B. Helms,<sup>a</sup> Allison Watson,<sup>b</sup> Mee-Ja Sula,<sup>b</sup> David Steffen,<sup>c</sup> Brian K. Whitlock<sup>a</sup>

<sup>a</sup>Department of Large Animal Clinical Sciences, and <sup>b</sup>Department of Biomedical and Diagnostic Sciences, College of Veterinary Medicine, University of Tennessee, Knoxville, TN; <sup>c</sup>University of Nebraska-Lincoln, Lincoln, NE

A six-year-old female multiparous Angus cow (~ 700 kg BW; five parities) was presented on emergency for dystocia. The cow had begun stage two labor earlier that morning, but failed to progress at which time the owner contacted the University of Tennessee Veterinary Medical Center (UTVMC). The attending veterinarian performed vaginal and rectal examinations on the cow following administration of a caudal epidural anesthetic (5 mL lidocaine; 20 mg/mL) and diagnosed the etiology of the dystocia as uterine torsion. The uterus was rotated toward the left (counterclockwise) with a rotation of approximately 360°. The cow was sedated with xylazine (40 mg IV) and acepromazine (20 mg IV), cast using the double half hitch method, and placed in left lateral recumbency. The uterine torsion was partially corrected by rolling the cow with the aid of a plank (three episodes) and ultimately completely corrected (final 90°) by manual detorsion via the vagina. A vaginal examination of the cow revealed a partially dilated cervix (8 to 10 cm), a moderately contracted uterus, and a fetus in cranial longitudinal presentation and dorsosacral position, with the head, neck, and forelimbs extended. Epinephrine was administered (10 mg IV) to the cow as a tocolytic to better allow manipulation of the fetus, and placement of obstetric chains and snare to the forelimbs and head, respectively. Manual traction, for a duration of approximately 30 minutes by two individuals, completely dilated the cervix and ultimately delivered a stillborn male fetus presumptively diagnosed as a perosomus elumbis (PE). A vaginal examination revealed no additional fetuses and minimal partial thickness uterine and vaginal tears. Ceftiofur crystalline free acid (4.5 g SQ) and flunixin meglumine (1.5 g IV) were administered to the cow. Upon receiving the full patient history, it was determined that the calf was the result of a consanguineous (mother to son) mating. Tissue samples from the affected fetus and blood samples from the dam, sire, and ten half-siblings were collected for parentage verification and genetic testing. The stillborn calf was submitted for necropsy to the UTVMC. The calf weighed 19.2 kg, had a skull that appeared short and rounded with maxillary brachygnathism, and bilateral exophthalmos. Bilaterally symmetric arthrogyposis and partial lumbar, and complete sacral and coccygeal vertebral aplasia (consistent with PE) were observed. An 18-cm long abdominal midline defect was observed with abdominal organ herniation and atresia ani, otherwise, all abdominal organs were present. Radiographic and computed tomography examinations were consistent with and supported the diagnosis of PE. Perosomus elumbis is a congenital abnormality of unknown origin that is characterized by aplasia of the lumbar vertebrae and spinal cord. Perosomus elumbis has been reported in several domestic species, including cattle. While this condition has been reported in Holsteins and Herefords, it has not yet been reported in Angus cattle. One case of PE was associated with a Holstein calf infected with bovine viral diarrhea virus. This is the first report of PE associated with a consanguineous mating.

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