

of this information, it was determined that the average daily gain of this litter was 3.37 ounces (95.5 grams) per day and that the 2 puppies exhibiting abnormalities had indeed met all developmental milestones within the same timeframe as littermates. Despite receiving no nutrition beyond milk supplied by the dam, all 5 puppies were considered obese. Of note, milk supply was plentiful, presumably due to the relatively small litter size. Prior to pursuing further diagnostics, the owner elected to complete at-home physical therapy and dietary management for both affected puppies and monitor for improvement. Physical therapy consisted of passive range of motion of both hind limbs and climbing over rolled towels for 15 minutes twice daily. After 1 week of physical therapy and dietary restriction, both puppies had improved overall mobility consistent with littermates and the puppy with altered hindlimb gait had a more consistent pattern of normal ambulation. Physical therapy was performed until 6 weeks of age with continued improvement of ambulation. At 13 weeks of age, both affected puppies successfully entered training to become working dogs. This case illustrated the importance of monitoring puppy weights and the detection of early abnormalities to prepare the animal for the best outcome

Keywords: Neonatal, canine, conformation, working dog

References

1. Peterson ME, Kutzler MA: Small animal pediatrics: the first 12 months of life. 1st edition, Saunders;2011.
2. Aggouni C, Albaret A, Anne J: NeoCare- 5 years of science to improve the health of newborn puppies. Royal Canin 2015.
3. Karcher DE, Costa RC, Prada TC: A modified technique for treating swimmer puppy syndrome. Veterinarni Medicina. 2018;63.

Recurrent uterine torsion in an Arabian mare

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An 11-year-old multiparous 270 days pregnant Arabian mare was referred for a suspected uterine torsion. On arrival the mare was colicky, tachycardic, and normothermic. A 270 degree clockwise uterine torsion was diagnosed by transrectal palpation. She was anesthetized using a triple drip regimen and rolled 5 times using the flank plank technique. The mare recovered uneventfully. Two days after uterine torsion resolution the CTUP (6 mm) was within normal limits. The fetus was alive, and the mare was discharged. Ten days later, the mare returned with another colic episode. She was examined and a 90° clockwise torsion was identified. The mare was rolled again and recovered uneventfully. One day after resolution of the torsion, serum progesterone concentrations were normal (9.88 ng/ml) but serum estrogen concentrations (765.12 pg/ml) were lower than expected at 280 days of pregnancy. There was a concern

about this as estrogens are a good indicator of fetal viability and tend to decline over the last trimester of pregnancy.¹ The mare delivered a healthy colt at home at 344 days. Uterine torsion in the mare is most common in mid to late pregnancy. Suspected causes include vigorous fetal movement, rolling, a large fetus in a relatively small volume of fetal fluid, lack of uterine tone, and a deep abdomen in larger breeds.² Transrectal palpation is the best way to diagnose uterine torsion and identify its direction that is essential for treatment. Repeated uterine torsions during the same pregnancy are rare. This case is important to the field of Theriogenology because uterine torsion in the mare is an emergency and presents with nonspecific clinical signs. Client education regarding the urgency of colic signs or discomfort in late pregnancy is essential. Early diagnosis and treatment improve outcome for the mare and foal. Close monitoring until foaling should be recommended.

Keywords: High risk, plank flank technique, endocrinology, colic

References

1. Curcio BR, Canisso IF, Pazinato FM, et al: Estradiol cypionate aided treatment for experimentally induced ascending placentitis in mares. Theriogenology 2017;102:98-107.
2. Martens KA, Govaere J L, Hoogewijs MK, et al: Uterine torsion in the mare: A review and three case reports. Vlaams Diergeneeskundig Tijdschrift 2008;77:397-405.

Dystocia and diaphragmatic hernia in a Quarter Horse mare carrying twins

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Twin pregnancy is one of the major noninfectious causes of abortion and may jeopardize the health and welfare of the mare. A 16-year-old primiparous Quarter Horse mare was referred for dystocia due to abortion at ~ 10 months of pregnancy. She was depressed, tachycardic, tachypneic, and hypothermic. Rectum and vulva were edematous and malodorous; fetal membranes were protruding from the vulva. Due to signs of septic shock, she was treated with intravenous fluid and corticosteroids prior to attempting controlled vaginal delivery. The fetus was emphysematous and in anterior presentation with bilateral shoulder flexion and lateral deviation of the neck. Due to poor prognosis, humane euthanasia of the mare was performed. On necropsy, the uterus was friable and edematous with a partial thickness tear. Dysmature, autolyzed twins were removed from the uterus. An acute diaphragmatic hernia of the large colon was also diagnosed, which may have been a complication of straining efforts and the enlarged uterus. Incidence of double ovulation ranges from 8 - 21% in Quarter Horses, with an incidence of twin pregnancy ranging from 8 - 11%.¹ Spontaneous twin reduction occurs frequently by day 40 of pregnancy in