of ITS reads were *Mucor circinelloides* and 8% *Pleospora herbarum*. Traditional culture method is of limited use to identify when antibiotic treatments can be discontinued due to antibiotics' inhibitory effects on culture results. The NGS results had several mixed bacteria and fungi that are more resistant to antibiotics. *Actinomyces* species was not identified, which we interpreted as a positive sign. The improved spermiogram, negative culture, and lack of *Actinomyces* detected by NGS were indications that antibiotic treatment could be discontinued. Ideally, NGS should have been performed prior to the start of antibiotic treatment to be used as a baseline, and further studies are indicated to determine thresholds of potentially pathogenic bacteria on fertility. Availability of a commercial clinical NGS laboratory service for the veterinary industry is a potentially groundbreaking advancement. One potential use of this technology may be to identify when long-term antibiotic treatments can be safely discontinued.

Keywords: Stallion, *Actinomyces* species, next generation sequencing

Thromboembolic disorder in a postcesarean section bitch

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Pregnancy and the postpartum period substantially increase the risk for venous thromboembolism (VTE) in women, a disease that leads to pulmonary embolism and deep venous thrombosis. The most important risk factor contributing to a thrombotic event is the hypercoagulable state that occurs during a normal pregnancy, with the highest risk occurring the first 6 weeks postpartum. Risk factors among women are age (> 35-years-old), cesarean delivery, hypertension, heart disease, obesity, and the presence of infection postpartum. To the authors' knowledge, this condition has not been reported in dogs. A 3-year-old female intact primiparous Labrador Retriever presented as an emergency due to fever (104.3°F), lethargy, and anorexia. History included dystocia due to secondary uterine inertia with fetal distress (stillborn fetus) that was resolved by emergency cesarean section 4 days prior to presentation. On initial evaluation, the patient was quiet and responsive, obese with a body condition score of 8/9, and had a moderate amount of lochia with no foul-odor. Bloodwork revealed a normocytic, normochromic, regenerative anemia (hematocrit of 27%, absolute reticulocytes 99.6 x 10^3/µl), leukocytosis with a neutrophilia characterized by a left shift and monocytosis (WBC 43.6 x 10^3/µl, reference interval [RI] 5.7 - 14.2; segmented neutrophils 35.8 x 10^3/µl, RI 2.7 - 9.4; band neutrophils 0.4 x 10^3/µl, RI 0.0 - 0.1; monocytes 2.6 x 10^3/µl, RI 0.1 - 1.3), hyperproteinemia (8.0 g/dl, RI 5.9 - 7.8) and hypoalbuminemia (1.8 g/dl, RI 3.2 - 4.1). Considering the clinical condition, medical intervention and hospitalization for further diagnostic testing were pursued. Medical management consisted of intravenous plasma-lyte A fluids (60 ml/kg/day), ampicillin/sulbactam (Unasyn, 30 mg/kg every 8 hours), and maropitant citrate (Cerenia®, 1 mg/kg every 24 hours). A disseminated intravascular coagulation panel indicated significantly increased D-dimers (4965 ng/ml, RI 0 - 575), decreased antithrombin III activity (50%, RI 65 - 145), and an increased aPTT (19.6 seconds, RI 8.5 -15.5). Abdominal ultrasonography revealed a diffusely, severely mottled spleen with innumerable hypoechoic regions of acute, multifocal infarction, suggesting the presence of splenic infarcts and no evidence of peritonitis. That evening, the patient developed labored breathing with a respiratory rate of 36 breaths per minute and pulse oxygenation of 93% (RI > 95%). An arterial blood gas revealed an alveolar-arterial oxygen gradient of 30 mmHg (RI 10 - 25). These findings were concerning for pulmonary thromboembolism. The patient improved after 24 hours of supplemental oxygen, and the supplementation was discontinued. Subsequent echocardiogram revealed no evidence of pulmonary hypertension. The patient was discharged 48 hours after hospitalization with oral amoxicillin/clavulanate (13.75 mg/kg every 12 hours for 14 days). Considering the clinical manifestation and increased risk reported with cesarean delivery and peripartum obesity in women, it was presumed that the pregnancy-related hypercoagulable state and postpartum period led to the development of a VTE in the postcesarean section bitch.

Keywords: Mare, pregnancy, placenta, cervix, ultrasonography

Funding: Cesarean section, hypercoagulable, pulmonary embolism, venous thromboembolism

Polled intersex syndrome in a Finnish Landrace lamb

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An apparently healthy, 4-month-old female Finnish Landrace lamb was presented for the presence of female and male external genitalia. The lamb was polled and a twin to a normal female. On initial examination the lamb had a short anogenital distance of 3.5 cm and a normal appearing vulva with a mildly enlarged clitoris. Left gonad was descended and palpable in the inguinal area, whereas the other gonad was suspected to be retained intra-abdominally. Left inguinal ring was severely dilated and the descended gonad could be moved freely intra- and extra-abdominally. Abdominal ultrasonography revealed a retained intra-abdominal right gonad that appeared testicular in origin with a hyperechoic mediastinum testis and a less echogenic parenchyma as seen in a normal testis. A fluid filled uterus was also identified, but ovaries were unable to be identified. Lamb underwent a midline exploratory laparotomy with a bilateral castration/hysterectomy. Uterus was identified and the uterine horns were followed to the location of the ovaries where testicular appearing structures with a pampiniform plexus

and epididymis were identified. The testicular tissue was attached to the broad ligament as the uterus and ovaries would be. Both testes were ligated and removed, the uterus was removed via a routine hysterectomy. Incision was closed in a routine fashion, the lamb recovered from anesthesia with no complications. Lamb was euthanized at a later time. Uterus and gonads were submitted for histopathology. Histopathology revealed that gonads contained hypoplastic testicular tissue. Seminiferous tubules were diffusely hypoplastic with a complete lack of spermatogenesis. Epididymis was hypoplastic with compressed ducts. There was marked congestion in the uterus with the lumen diffusely filled with erythrocytes consistent with intraluminal hemorrhage and the endometrial lamina propria was expanded by edema. No ovarian tissue was identified in the sections of the testis that were evaluated. However, due to the difficulty associated with identifying ovarian tissue, the presence of ovotesticular tissue could not be ruled out. Blood was submitted to the Texas A&M College of Veterinary Medicine, Molecular Cytogenetics Laboratory for karyotyping. The results revealed a genetically female sheep with a normal sheep karyotype (54 XX). On polymerase chain reaction, the lamb was negative for the presence of the Y-linked SRY gene and positive for the X-linked androgen receptor gene. No chromosomal abnormalities were observed. Intersex conditions in goats and in sheep are believed to be linked with the polled gene. Affected animals are genetically female (XX), SRY negative and believed to be homozygous for the polled gene. In this case the lamb is an intersex, consistent with polled intersex syndrome sex reversal but, may be a true hermaphrodite.

Keywords: Sheep, polled, intersex, sex reversal, chromosome, hermaphrodite

Reduction of equine monozygotic twins using craniocervical dislocation via colpotomy

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Twin management is a very important facet of equine reproduction management. Compared to dizygotic twins, monozygotic twins are a relatively rare occurrence in mares. Management of monozygotic twins is considerably more complex when it comes to preserving the safety and welfare of the mare and developing pregnancy. Of the options of twin reduction after day 50 of pregnancy, craniocervical dislocation (CCD) has been reported to be a superior choice.[1] We have modified the surgical approach for a CCD from the reported flank laparotomy to colpotomy. In our hands, successful reduction of dizogotic twins by CCD via a colpotomy approach has been 71% (n = 29). To-date we have managed 2 cases of monozygotic derived twins with a 50% success rate. Our hypothesis for the current case was that CCD via colpotomy is a successful technique for monozygotic twin management given its successful application on our first case of monozygotic twin reduction. An embryo recipient mare that received 1 embryo was presented at 65 days of pregnancy for the reduction of 1 fetus after diagnosed to have monozygotic twins via ultrasonography by the referring veterinarian. The referring veterinarian was actively monitoring the unilateral twin pregnancy for natural reduction. Once the pregnancy reached 60 days with no reduction, the case was referred to us for CCD. After confirmation of monozygotic twins (i.e. 2 separate amnions were observed within 1 allantoic sac), a CCD was performed on 1 fetus via a colpotomy approach. Unfortunately, both fetal heartbeats were lost on detection by the referring veterinarian and presumably aborted between 4 and 6 weeks after CCD procedure. Other cases of monozygotic twins have been reported in recipient mares that received a single embryo.[2-4] Several management techniques were employed in each of these cases with varying outcomes. CCD via colpotomy is a novel approach and was chosen in this case due to the age of the fetuses and a desire to reduce the most craniad that we presumed would have less chorionic attachment and lower development capacity as the pregnancy progressed.[1] The importance of this case is in demonstrating that CCD via colpotomy can be a useful method for management of monozygotic twins; however, prognosis for successful development of the remaining fetus is guarded due to the orientation of the twin fetuses enclosed within a single allantochorion.

Keywords: Twins, monozygotic twins, twin management, embryo recipient, embryo transfer

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Chronic seminal vesiculitis and blocked ampullae in a stallion

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Seminal vesiculitis is a rare condition in the stallion; however, it can result in blocked ampullae. A 12-year-old Gypsy Vanner stallion with a previous successful breeding history was presented for persistent polyspermia, manifesting as an abnormal grey