Ultrasonographic imaging of cervical defects in two mares with chronic infertility
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The following cases demonstrate the use of trans-rectal ultrasound to image and diagnose cervical defects. In case one, a 16 year old Thoroughbred mare was presented for a breeding soundness examination due to a history of chronic infertility. The mare had foaled the previous year and did not become pregnant after being bred for three estrous cycles that year and two additional cycles in the subsequent year. The mare had been managed appropriately and treated aggressively during those cycles. Upon presentation the mare was 16 days post-ovulation and was in estrus (40mm follicle left ovary, moderate endometrial edema, a trace of intra-luminal fluid and had a relaxed cervix). No progestagen supplementation had been administered, and trans-rectal ultrasound revealed three small (2-5 mm) hypechoic defects in the ventral musculature of the cervix. Digital palpation of the cervix confirmed three depression-like defects in the ventral floor of the cervix that corresponded with the areas visualized via trans-rectal ultrasound. Surgical repair to correct the defects was performed and the defects were not visible via trans-rectal ultrasound after repair. The mare was bred and became pregnant the second cycle she was bred after surgery. In case two, a 13 year old Oldenburg mare was presented for a breeding soundness examination due to a history of chronic infertility. The mare had a history of a difficult foaling four years prior and had failed to become pregnant after being bred to a fertile stallion two consecutive years. Trans-rectal palpation and ultrasound of the reproductive tract revealed the mare was in early estrus with a 30 mm follicle, mild endometrial edema, a trace of intra-luminal uterine fluid and a slightly relaxed cervix. No progestagens had been administered to the mare prior to evaluation. Transrectal ultrasound of the cervix revealed a hypoechoic circular region 3 cm in diameter in the ventral musculature of the cervix approximately 6 cm from the external cervical os. Digital palpation of the cervix revealed a defect in the ventral cervical musculature that extended from 3-9 o’clock and was approximately 3 cm in the cranio-caudal direction. The cranial cervical canal extended from this defect another 4 cm cranially. Insufflation of the cervical canal during an endoscopic examination revealed a large opaque mucoid mass within the defect of the ventral cervical musculature. Microscopic examination of a sample aspirated from this mass yielded neutrophils and hyphae, consistent with a fungal infection. Consultation with a surgeon determined that due to the defect’s large size and being located relatively far cranially in the cervical canal surgical repair would be difficult and might not yield complete resolution of the defect. This information combined with the poor prognosis associated with fungal endometritis cases led the owner to decide against pursuing treatment. These cases describe cervical defects that were identified initially via trans-rectal ultrasound examination. The defects identified during digital palpation corresponded with those visualized via trans-rectal ultrasound. Thorough ultrasound examination of the cervix may aid in the identification of cervical defects that have been undetected previously and should be used in conjunction with digital cervical examination. While not all defects are identifiable via trans-rectal ultrasound, visualization of the defect provided valuable information regarding the size, extent and contents of the defect. Surgical correction was beneficial in one of the cases, but not possible in the second one.

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