Successful management of urine pooling using phenylpropanolamine hydrochloride in an embryo donor mare

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A 15-year-old multiparous Quarter Horse mare was presented with severe ulcerative dermatitis of the vulva and medial aspect of both hind limbs due to chronic urine pooling. The mare was not pregnant after artificial insemination during three estrous cycles. Physical examination showed urine spilling along the hind limbs when the mare shifted weight and an abnormal perineal conformation. A vaginal speculum examination revealed a prominent urethral opening and poor urethral sphincter tone with urine passively spilling into the vestibule and vagina. Reproductive ultrasonography revealed fluid in the uterus (5L). Samples were collected for aerobic bacteria culture and sensitivity. The mare was started on empirical antibiotic therapy with trimethoprim sulfamethoxazole, flunixin meglumine, and phenylpropanolamine hydrochloride (Proin) at 1mg/kg per os every 12 hours to increase urethral sphincter tone. Three days after initiation of phenylpropanolamine hydrochloride therapy, urine pooling volume was decreased and a slight increase in urethral sphincter tone was observed, although the urethral sphincter remained open. The dose of phenylpropanolamine hydrochloride was increased to 1.5mg/kg every 12 hours. Systemic and intra-uterine ceftiofur (Excede) treatment was started based on the culture and sensitivity results to treat the *E. coli* urinary tract and uterine infection. Transrectal ultrasonography showed a small amount of uterine fluid present and a uterine lavage recovered purulent material. Dinoprost tromethamine (10mg, IM) was administered to facilitate expulsion of uterine contents. Surgical treatment was elected as a long-term correction of urethra and perineal conformation; however, only a perineal body transection was performed in place of urethral extension due to an unexpected epidural reaction. Phenylpropanolamine hydrochloride therapy was continued for long-term management. At the time of abstract submission, an embryo had been recovered from this mare. Successful treatment of urine pooling, without urethral extension surgery, was achieved with the use of phenylpropanolamine hydrochloride to increase urethral sphincter tone and prevent further urine pooling and subsequent infertility.

Keywords: Equine, urine pooling, phenylpropanolamine hydrochloride, urethral sphincter, infertility