Evaluation of a modification of the McKinnon technique to correct urine pooling in mares
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Abstract:
The objective of this trial was to determine whether the incidence of defects in mucosal tunnels
created to correct urovagina in mares could be decreased by modifying the commonly used McKinnon
technique of urethroplasty. The urethral fold of 30 mares, none of which suffered from urovagina, was
split transversely into dorsal and ventral shelves, and the ventral shelf was used to help create a urethral
extension. The dorsal shelf was stretched caudally and sutured to the extension so that it covered at least
the cranial half of the extension. For 20 mares, a relaxing, vaginal incision was created cranial to the
external urethral orifice to enable the dorsal shelf to be retracted further caudally. Ten mares developed a
defect in the extension, but none developed a defect in that portion covered by the dorsal shelf of the
urethral fold. Four of the 10 mares that did not receive the relief incision and six of 20 mares that did
receive the relief incision developed a defect in the extension. Several defects were so small they could
be detected only by inserting a dye, under pressure, into the tunnel. Modifying the McKinnon technique
of urethral extension by transversely splitting the urethral fold and retracting the dorsal half may help
prevent a defect from forming at least in the cranial portion of the extension. The dorsal shelf can be
retracted further caudally by creating a relief incision on the floor of the vagina.

Keywords: Urethral extension, urovagina, urine pooling, mares