Session A2-02 – Chirurgie urogénitale chez la jument

Pdt de séance : A. Lechartier

11h40 – 12h05

Management of urovagina

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Introduction

The conformation of the reproductive tract in most multiparous mares gradually changes with age to where the cranial aspect angles more ventrally. The downward tilting of the reproductive tract enables urine that is not completely voided to gain access to the cranial vagina. This can result in contamination and inflammation of the cranial vagina, cervix, and uterus, adversely affecting fertility. Urovagina or urine pooling, can be prevented by moving the exit hole for urine from the cranial to the caudal aspect of the vestibule, the urethral extension procedure. Other procedures used to prevent urovagina include the perineal body transection and the uteropexy. These two procedures have not worked as well to prevent urine pooling for mares in our practice as the urethral extension. Thus, this presentation addresses urethral extension procedures to prevent urovagina.

Prior to performing a urethral extension, it is important to determine that the urovagina is not just a transient postpartum event. Also, examine the skin below the vulva for scalding. If this is present, the mare most likely has an incompetent urethral sphincter, or possibly a bladder stone causing chronic leaking of urine. A lax urethral sphincter can be identified by digital palpation. A bladder stone is usually found on manual vaginal exam, rectal exam, or ultrasound exam. Both of these abnormalities can cause urine pooling, but urine pooling without these abnormalities, rarely causes scalding of skin below the vulva.

Urethral Extension

There have been a few techniques described to extend the urethra caudally. Monin (1972) described pulling the transverse fold caudally and suturing it to the ventrolateral walls of the vestibule. Brown (1978) described incising the transverse fold horizontally and continuing the incision along the left and right ventrolateral walls of the vestibule to the caudal aspect of the vestibule, followed by suturing the ventral edges together and then the dorsal edges together to create a long tunnel. McKinnon (1988) described making a similar incision across the transverse fold continuing with a more dorsal incision along the ventrolateral walls of the vestibule than the Brown technique. The ventral edges of mucosa are dissected away from the underlying tissue, then sutured together and to the transverse fold in an inverting 1-layer closure, resulting in a Y-shaped closure pattern. Dissection of the ventral edges away from the underlying tissue results in less tension on the suture line, but only a 1-layer closure. Another procedure was described in 1990, which used a similar incision as the Brown technique, but pulled the transverse fold as far caudally as possible to reduce tension on the cranial aspect of the repair, then the ventral and dorsal edges along the ventrolateral walls of the vagina were sutured together and to the transverse fold in 2-layers, resulting in a Y-shaped repair. I have found this latter technique, with modifications as needed to be the most successful.

In preparation for the urethral extension, the mare is sedated with xylazine and detomidine and placed in stocks. Infrequently, butorphanol is added. Epidural anesthesia is induced with xylazine (0.17mg/kg), lidocaine (0.22mg/kg), and saline (4ml). The tail is tied up and Balfour retractors are used to gain access to the vestibule. Repair of leaks or extension of a previously placed urethral extension can be done using local anesthesia.

The technique I use for the urethral extension depends on the conformation of the vestibule and the transverse fold. They all involve splitting the margins of the transverse fold and continuing the incision along the ventral walls of the vestibule caudally to just past the caudal brim of the pelvis. The transverse fold is retracted caudally, then the

ventral edges are sutured together and the dorsal edges are sutured together, both using 3-0 polyglactin 910.

W-shaped suture pattern. The transverse fold often has 2 lobes on either side of midline that can be pulled further caudal than the center of the transverse fold. If this is present and the mare has a wide flat floor of the caudal vestibule, I use a modified Monin technique. I pull the transverse fold lobes as far caudally as possible, usually just caudal to the level of the caudal brim of the pelvis, then suture the margins of the transverse fold to the ventral walls of the vestibule. This leaves a gap in the middle that can be closed if there is not too much tension on the edges. This then forms somewhat of a W-shaped suture pattern. I have had the middle part dehisce in a few mares, so I sometimes wait and close the middle part 2-3 weeks later.

V-shaped suture pattern. I use this pattern if the middle of the transverse fold can be pulled to the level of the caudal brim of the pelvis and the caudal aspect of the floor of the vestibule is not too wide. I suture the margins of the transverse fold to the ventral walls of the vestibule, as mentioned above. In some mares, the middle of the transverse fold retracts cranially over time and the urethral extension needs to be extended further caudally.

Y-shaped pattern. I use this pattern if the middle of the transverse fold can be pulled near to the caudal brim of the pelvis and there is enough tissue to pull side to side at the caudal brim of the pelvis. After creating the V-shaped pattern, the walls of the ventral vestibule are sutured together and to the caudal aspect of the transverse fold, to further extend the tunnel. This is the technique described in 1990. About 20% of these develop a leak at the middle of the Y, which can be repaired about 4 weeks later.

Postoperative recommendations include flunixin for 5 days, routine turn out, and nothing per vagina for 4 weeks, after which time the mare should be checked for healing of the surgery site and any evidence of urine pooling from a leak or cranial retraction of the urethral extension tissue.

Complications

Urine continuing to pool in the cranial vagina is the most common complication following a urethral extension. This occurs following 10-20% of the urethral extension procedures and is due to the caudal edge of the ceiling of the urethral extension retracting too far cranially or from small sites of dehiscence along the suture lines creating rents that leak urine. Retraction of the ceiling of the extension can be resolved by further extension of the urethral extension. The caudal edge of the ceiling of the extension is incised creating dorsal and ventral edges and the incision is continued caudally on both sides of the vaginal wall to the level to the level just caudal to the caudal brim of the pelvis. The ventral edges and then the dorsal edges of tissue are apposed in a continuous horizontal mattress pattern. Holes in the urethral extension, if positioned relatively caudally, are most easily closed by incising the tissue caudal to the hole, then incising the mucosa around the edges of the hole, creating dorsal and ventral edges, which are apposed as described above. Holes that formed in the more cranial aspect of the urethral extension are more difficult to repair. An incision is made through just the dorsal mucosa at the caudal aspect of the hole. This enables an incision to be made through the mucosa around the edges of the hole splitting it into dorsal and ventral edges, These edges are apposed as described above.

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