

Surgical repair of third-degree rectovaginal laceration in mares: a report of five cases

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Rectovaginal laceration in the mare typically occurs during dystocia, when the foal's limbs or head are forced caudodorsally, resulting in tearing of the rectovestibular septum, rectal and vestibular musculature, and the perineal body (Woodie, 2006; Hendrickson, 2007). Surgical reconstruction of third-degree perineal lacerations is essential to restore normal anatomy and breeding soundness in affected mares (Woodie, 2006; Hendrickson, 2007). While some authors advocate immediate surgical repair following injury (Delahanty, 1968), others recommend allowing the wound to heal by second intention for 4-6 weeks before intervention to permit resolution of inflammation and tissue oedema (Woodie, 2006). Third-degree perineal lacerations are most commonly corrected using either the one-stage Goetz technique or the two-stage Aanes technique, including various modifications of these procedures (Woodie, 2006).

Five mares affected with third-degree rectovaginal laceration were presented to the Veterinary Hospital, Satna. Diagnosis was confirmed based on a history of dystocia and clinical examination of the affected perineal region. Clinical examination revealed complete tearing of the ventral rectal wall and dorsal vaginal wall, resulting in a common passage for defecation and urination (Fig. 1). The affected mares exhibited straining during urination and defecation, along with signs of pneumovagina (wind sucking).

Supportive therapy consisting of tetanus toxoid, antibiotics, antihistaminics, and anti-inflammatory drugs was administered. The contaminated and oedematous perineal region was thoroughly cleansed using povidone-iodine solution. Immediate surgical intervention was avoided because the lacerated tissues were severely contaminated and oedematous. Definitive surgical repair was therefore undertaken four weeks after the initial trauma, following adequate

resolution of inflammation and tissue swelling.

The mares were withheld from feed for 12 hr prior to surgery and sedated with intravenous xylazine (1.1 mg/kg body weight) and butorphanol tartrate (0.01 mg/kg). Caudal epidural analgesia was achieved by administration of 5-10 mL lignocaine HCl. The perineal region was aseptically prepared for surgery.

The ventral rectal wall and dorsal vaginal wall were carefully dissected and separated to create distinct rectal and vaginal shelves. Following adequate preparation of these tissue flaps, reconstruction was performed using the six-bite suture pattern of the one-stage Goetz technique with Vicryl No. 2. The first bite was placed through the left vaginal flap in a ventral-to-dorsal direction, followed by the second bite through the left rectal flap in a ventral-to-dorsal direction. The third bite was placed through the right rectal flap in a dorsal-to-ventral direction. The second and third bites were confined to the rectal submucosa without penetrating the rectal mucosa. The fourth bite was placed through the right vaginal flap in a dorsal-to-ventral direction, exiting through the vaginal mucosa. The fifth bite re-entered the right vaginal flap medial to the fourth bite in a ventral-to-dorsal direction, while the sixth bite was placed through the left vaginal flap medial to the first bite in a dorsal-to-ventral direction (Fig. 2) (Belknap and Nickels, 1992). Tightening of the sutures resulted in complete separation of the rectal and vaginal passages. The procedure was completed by reconstruction of the perineal body using simple interrupted sutures with Vicryl No. 2. Finally, the perineal skin was apposed using simple interrupted silk sutures No. 1.

Postoperatively, all mares received fortified procaine penicillin (22,000 IU/kg body weight, i.m.) once daily for 7 days, along with phenylbutazone (6.6 mg/kg, i.v.) once daily for 3 days. The reconstructed

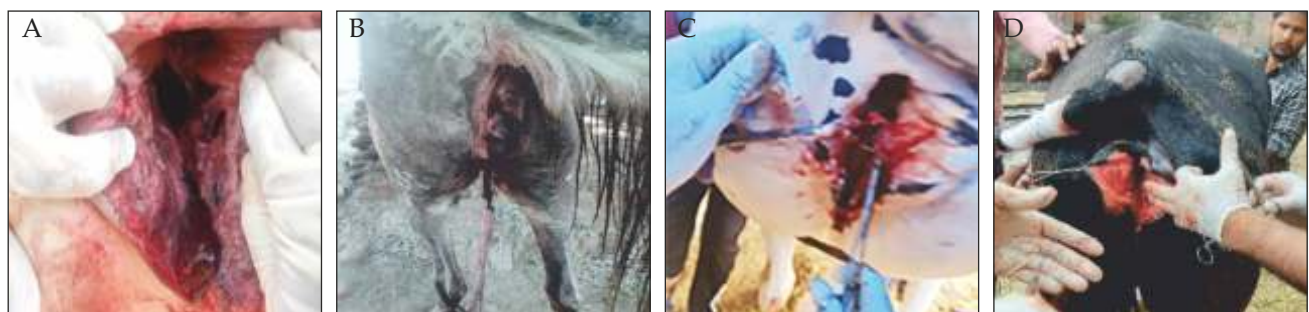


Fig. 1: Third degree rectovaginal laceration in four different mares.

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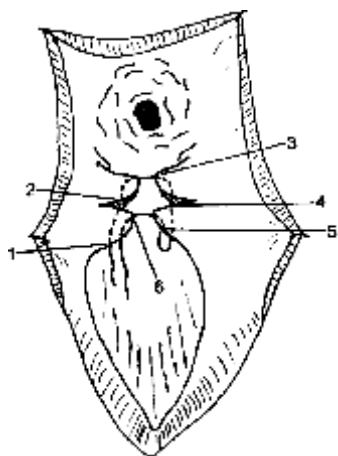


Fig. 2: Goetz six bite suture pattern employed to reconstruct the rectovaginal tear.

rectovaginal region was dressed daily with povidone-iodine solution followed by topical application of neomycin ointment for 10 days. To minimize straining during defecation and facilitate healing, the mares were maintained on a laxative diet and administered liquid paraffin orally for 7 days to soften the fecal contents.

Surgical repair was successful in 4 of the 5 mares without any significant postoperative complications. One mare developed partial wound dehiscence, which was subsequently corrected following repeat surgical intervention.

Third-degree rectovaginal lacerations in mares are commonly repaired using either one-stage or two-stage techniques, including various modifications of these procedures. Reported postoperative complications associated with repair of third-degree perineal lacerations include rectovaginal fistula formation, urine pooling, complete wound dehiscence, constipation, tenesmus, and reduced reproductive performance (Kazemi *et al.*, 2010). In the present study, partial wound dehiscence was observed in one mare; however, satisfactory healing was achieved after the second surgery. In contrast, Kazemi *et al.* (2010)

reported successful repair without complications in seven mares treated using the one-stage Goetz technique.

The results of the present study indicate that repair of third-degree perineal laceration using the Goetz six-bite suture technique offers a reliable and effective single-stage surgical approach. Appropriate preoperative and postoperative management of fecal consistency is considered critical for successful healing in mares undergoing perineal reconstruction. Maintenance of soft feces for at least two weeks postoperatively reduces straining during defecation and minimizes tension on the suture line (Hospes and Bleul, 2007).

In conclusion, third-degree rectovaginal laceration in mares can be successfully managed using the one-stage Goetz repair technique.

References

- Belknap, J.K. and Nickels, F.A. 1992. A one-stage repair of third-degree perineal lacerations and recto vestibular fistulae in 17 mares. *Vet. Surg.* **21**: 378-381.
- Delahanty, D.D. 1968. Surgical correction of contributory causes of uterine disease in the mare. *J. Am. Vet. Med. Assoc.* **153**: 1563-1566.
- Hendrickson, D.A. 2007. Equine urogenital surgery. *In: Techniques in Large Animal Surgery*, Hendrickson, D.A. (Ed), 3rd edn. Iowa, Blackwell. pp 179-184.
- Hospes, R. and Bleul, U. 2007. The effect of extended preoperative fasting in mares undergoing surgery of the perineal region. *J. Equine Vet. Sci.* **27**: 542-545.
- Kazami, M.H., Sardari, K. and Emami, M.R. 2010. Surgical repair of third-degree perineal laceration by Goety technique in the mare: 17 cases (2000–2005). *Iranian J. Vet. Res.* **11**: 184-188.
- Woodie, B. 2006. The vulva, vestibule, vagina and cervix. *In: Equine Surgery*, Auer, J.A. and Stick, J.A. (Eds.), 3rd edn. W.B. Saunders, Philadelphia, USA.