

## Surgical Management of Third Degree Perineal Laceration in a Mare

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### Abstract

A Marwari mare was presented with third-degree perineal laceration and surgically corrected by single stage spiral suture technique. Before surgery, intra-uterine lavage was performed using sterile normal saline containing Povidone iodine solution to control uterine infections. Surgical repair of third degree rectovestibular laceration was undertaken by single stage spiral suture technique, with lateral dissection continued extensively until the two flaps were created and brought to the midline without any tension. Suturing was carried out from inside to outside in spiral fashion and vulvar skin was approximated by horizontal mattress. The obtained results indicate that mares with third degree perineal laceration (rectovestibular lacerations) could be managed by single stage spiral suture technique without any complication with pre-operative intra-uterine lavage.

**Keywords:** Mare; perineal laceration; suture technique

### Introduction

Third degree perineal or rectovestibular lacerations causes disruption of the perineal body, anal sphincter, floor of rectum and ceiling of vagina which leads to a common opening between vagina and rectum. Laceration has been classified as per extent of injury like first, second and third degree lacerations (Farag *et al.*, 2000). The communication between rectum and vagina results in constant presence of fecal material in the vagina therefore reconstruction of third-degree rectovaginal lacerations is necessary to bring breeding soundness of mare (Pooniya *et al.*, 2019). Fetal malposition, large sized foetus or aggressive or inappropriate assistance during foaling may be responsible for laceration. Such type of injury also occurs due to prominent vestibulo-vaginal sphincter and remnants of the hymen in mares which are foaling for first time (Kazemi *et al.*, 2010). The powerful expulsive efforts and rotation of the equine fetus exerts pressure on lateral and dorsal walls of the birth canal thus increasing chances of laceration (Woodie, 2006). Surgical interference for acute injury repair should be considered only if it can be performed within a few hours and if local tissue damage seems compatible with success (Saini *et al.*, 2013). Definitive repair is usually delayed for 4-6 weeks until complete wound contraction and epithelization occurs (Farag *et al.*, 2000 and Ghamsari *et al.*, 2008). Advantages of a

single stage surgery over a two-stage repair, in which the second phase is done 2-4 weeks later, include less hospitalization, less pre-operative and post-operative care and a single surgical procedure (Pooniya *et al.*, 2019).

### History, Clinical Signs and Diagnosis

Ten years old Marwari mare was presented with history of third degree perineal laceration which was occurred before three months during foaling. Clinical examination revealed complete loss of recto vestibular junction. Continuous soiling of vaginal floor with dung and wind sucking during exercise was observed. Mare was operated for third degree perineal laceration by single stage spiral suture technique in standing position under caudal epidural anesthesia.

### Surgical Treatment

Mare was prepared for surgery after standard preoperative preparation *viz.* off feed, off water for 72 and 12 hours respectively. Before surgery, gastro intestinal tract was emptied by manual removal of fecal palates and by oral administration of laxatives. Uterine lavage was performed by sterile normal saline containing 0.1 percent Povidone iodine solution for two times before surgery. In standing position surgery was performed after achieving caudal epidural anesthesia with 7 ml of 2 percent Lignocaine hydrochloride. Stay suture was taken on vulvar lips for easier exposure of operative site. Incision was given on scar tissue lining between rectum and vagina up to perineal skin caudally and

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#### Perineal laceration in mare



Fig. 1: Third degree perineal laceration before surgery

dissected tissue up to both flaps which was reached nearer without tension. Suturing was started from most cranial aspect of tearing and continuous suturing of dissected tissue flaps was taken in spiral fashion up to incision of perineal skin using Polyglactin (Vicryl, Ethicon, USA). Needle was not penetrated in rectal mucosa during reconstruction of rectal floor. Vulvar lips except distal part of two fingers gap were apposed by interrupted sutures with silk No. 1 (Fig. 2). Post-operative antibiotics (Ceftriaxone, 10 mg/kg), analgesic (Flunixin Meglumine, 1.1 mg/kg) for five days and Tetanus toxoid - 5 ml I/M before surgery were given. Three days pre-operative and five days post-operative fluid therapies were given to the mare. After 30 days of surgery, animal was recovered uneventfully. Owner was advised for enlargement of vulva opening during mating so further post-operative wind sucking and uterine infection can be prevented.

#### Results and Discussion

In present study, mare was operated for third degree perineal laceration with single stage spiral suture technique which was earlier described by Dabas and Sharma (2011). In this case, disruption of the perineal body, anal sphincter, floor of the rectum, and vagina was observed (Fig. 1). Preoperative uterine lavage was found beneficial for uterine infection and successful outcome of surgery which was also earlier supported by Elkasapy and Ibrahim (2015). Perineal laceration is a serious complication in mare which was not attended during foaling and difficult to manage also. At the site of laceration, there is usually contamination, inflammation, and edema after injury (Singh and Saharan, 2017 and Pooniya

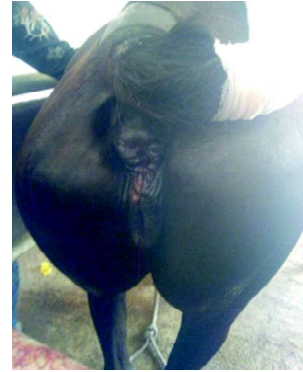


Fig. 2: After reconstruction of perineal laceration

*et al.*, 2019). In such cases, surgical repair after three to four months results in better outcome of surgery with resolution of the inflammation associated with acute trauma and formation of fibrous tissue which can support sutures. Reconstruction of perineal laceration was performed in standing animals under the effect of caudal epidural anesthesia which found appropriate technique of restraint with all structures supported in proper relationships (Mosbah, 2012). In present case, mare was fasted for 3 day after surgery to avoid straining on the suture line. Similarly, many surgeons prefer to keep the animal fasting for 5 days before and 9 days after operation (Aanes, 1988; Hospes and Bleul, 2007). The dissection was carried out sufficiently deeper to prepare flaps on both sides and during suturing, they brought together at midline as described by Mosbah (2012). Many authors described repair technique for perineal laceration includes Modified one-stage repair, Inside-out continuous suturing technique, Goetz technique for one stage repair and Single stage spiral suture technique; however, in present study, single spiral suture technique was used for repair and found easy, provide excellent apposition of the tissues and produced less complication which was in accordance to Dabas and Sharma (2011).

#### Acknowledgements

Thanks to the Director of Research, Kamdhenu University (KU), Gandhinagar and Dean, College of Veterinary Science and Animal Husbandry for providing facilities required for this study.

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Received on:30.07.2020  
Accepted on:08.11.2020

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