

## Operative approach to a case of perineal laceration in an Arabian mare

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**Abstract:** In this report, a case of perineal laceration of a purebred Arabian breed of 5 years old brought to the Clinic of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Fırat University was presented. As a result of the examination, it was determined that the lips of the vulva were intact, and the rupture was shaped in the perineal region above the rectum, anus, and vulva as distinct from the rectovaginal laceration after the parturition in mares. For the treatment of the animal, perineoplasty was performed on three different dates, but the targeted success could not be achieved because the rectovaginal fistula was formed.

**Keywords:** Mare, perineoplasty, rectovaginal laceration.

### Arap ırk kısırakta perineal laserasyon olgusuna operatif yaklaşım

**Özet:** Bu vaka sunumunda, Fırat Üniversitesi Veteriner Fakültesi Doğum ve Jinekoloji Kliniği'ne getirilen safkan Arap ırkı 5 yaşlı bir kısırakta görülen bir perineal laserasyon olgusu sunulmuştur. Yapılan muayene sonucunda kısıraklarda doğum sonrası ortaya çıkan rektovajinal yırtıklardan farklı olarak vulva dudaklarının sağlam olduğu ve yırtığın rektum, anüs ve vulvanın üstündeki perineal bölgede şekillendiği tespit edildi. Hayvanın tedavisi için 3 değişik tarihte perineoplasti operasyonu yapıldı, ancak rektovajinal fistül şekillendiği için hedeflenen başarıya ulaşamadı.

**Anahtar kelimeler:** Kısırak, perineoplasti, rektovajinal laserasyon.

### Introduction

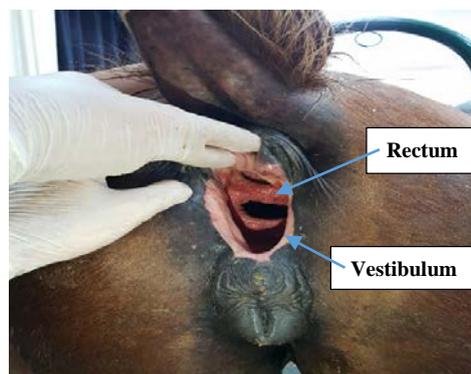
Perineal lacerations are common in primiparous mares. In cases of difficult parturition, rectovaginal tears occur as a result of the foal's abnormal presentation, position, and posture during parturition, as a result of excessive pressure of the foal's nails on the lateral and dorsal walls of the birth canal (Akar & Yıldız, 2017; Jalim & McKinnon, 2010). It is more common in mares than in cattle and other domestic animals. The prominence of the vestibulovaginal sphincter and the remnant of the hymen play an important role in the formation of rectovaginal laceration in primiparous mares (Elkasapy & Ibrahim, 2015). The rectum and vagina are

classified according to the degree of impact. First-degree lacerations involve only the dorsal commissure of the vulva and the vestibular mucosa. In second-degree lacerations, the vestibular mucosa and submucosa are affected. Lesions continue to the muscles of the perineal body, including the vulva muscle. Third-degree lacerations cause rupture of the perineum, anal sphincter, floor of the rectum, and roof of the vestibule, resulting in a common opening between the vestibulum and rectal mucosa (Kaşıkçı et al., 2005; Mosbah, 2012). The vagina and vestibulum are contaminated with feces because the integrity of the tissues is lost. Thus, inflammation occurs in the vagina, cervix, and even the uterus it tends to heal spontaneously in first and second-degree cases. Moreover, daily cleaning of wounds, anti-inflammatory drugs, broad-spectrum antibiotics, and antiseptic pomade can be applied (Akar & Yıldız, 2017). In third-degree tears, operative interventions are required to maintain the mare's fertility. Since the tissues are usually highly edematous and contaminated, the surgical intervention should be waited for 4-6 weeks, considering the degree of postpartum injury (Pooniya et al., 2019).

In this report, a case of rupture of the ventral part of the anal sphincter without deterioration of the integrity of the vulvar lips, unlike classical rectovaginal tears, is presented. In addition, it aimed to provide information about the surgical intervention approach in such a case of perineal rupture.

### Case Description

A five-year-old Arabian mare was brought to Clinic of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Fırat University, with a complaint of a perineal laceration. According to the information received from the animal owner, it was learned that the mare vaginal delivery to a foal due to dystocia a year ago. It was reported that a perineal laceration was also present at the time of parturition. The perineal laceration was diagnosed by clinical examination of the mare (Figure 1).



**Figure 1.** Preoperative view of the perineal laceration.

An informed consent form was obtained from the patient owner for the applications on the mare. Perineal laceration cases are usually seen after parturition. Therefore, before any operative intervention, it is necessary to wait about 6 weeks for the removal of postpartum edema. In this case, the mare was taken to the operation after 24 hours of limited feeding, as it had been 1 year since the case. After the operation, green grass was fed to ensure that the stool was soft. For the treatment of the mare, a 2-stage perineoplasty operation was planned, considering the Goetz technique (Kazemi et al., 2010). In the first stage, it was aimed to connect the septum between the rectum and vagina, and in the second stage, to connect the perineal region (in this case, suturing the anal sphincter because the vulvar lip preserved its integrity). Before the operation, the rectum was emptied as much as possible and a cotton plug was inserted into the rectum. The tail was bandaged and removed, and the area was disinfected. To provide anesthesia, Xylazine hydrochloride (0.20 mg/ kg) and 2% Lidocaine (1.0-1.5 mg/ 100kg) were administered into the epidural space. In addition, 2% Lidocaine (20 ml) was applied locally to the injury site. Simple continuous sutures were made with absorbable suture material (PGLA, USP: 1, Medeks, Türkiye) to connect the rectum and vaginal mucosa. Postoperatively, Penicillin G-Streptomycin sulfate (20,000/ 2.5 IU/ kg) was administered for 7 days and Meloxicam (0.6 mg/ kg) was administered intravenously as a single dose. For the second operation, the healing of the stitches was expected and the second operation was performed 21 days later. In the second operation, the integrity of the anal sphincter and the perineum region between the vulva and anus was ensured (Figure 2). In the examination performed 1 week after these operations, the desired success could not be achieved due to the formation of a rectovaginal fistula as a postoperative complication (Figure 3).



**Figure 2.** Suturing the anal sphincter and perineum after the second operation.



**Figure 3.** Rectovaginal fistula formed after the operation.

### **Discussion**

Perineal lacerations in mares are a serious complication usually observed after difficult parturition. Contamination, inflammation, and edema occur in the region due to perineal lacerations (Singh & Saharan, 2017). Many methods, such as Goetz, Pedicle Flap, Aanes two-stage, and slight modifications, are used in cases of third-degree perineal laceration (Schönfelder & Sobiraj, 2004; Kazemi et al., 2010). Complications of the methods used for the treatment of third-degree perineal laceration cases include rectovaginal fistula formation, urine accumulation, complete opening of the repair, constipation, tenesmus, and performance difficulty (Kazemi et al., 2010). These operations are carried out in one stage or two-stage. Compared to a two-stage operation, where the second operation is performed 2-4 weeks later, the advantages of a single-stage operation include less hospital stay, shorter preoperative and postoperative care time, and a single surgical procedure. Two-stage operations are also advantageous in terms of the mare's ability to defecate more easily. Also, the rectum is less likely to be affected, and forcing the mare to defecate will result in the separation of the sutures or fistula (Kazemi et al., 2010). In this case, considering the advantages of the two-stage operation, a 2-stage operation was performed. However, a rectovaginal fistula formed as a postoperative complication.

It is reported that fertility will be positively affected after the operations performed in perineal laceration cases and the mare becomes pregnant again. Kazemi et al. (2010) reported that a pregnancy rate of 70.1% was obtained in mares who underwent operative intervention, and therefore, operative interventions are indicated, especially in mares that are genetically important., and it was reported that operative interventions are indicated, especially in mares

with genetically important issues. Papa et al. (2014) achieved a pregnancy rate in 14 of 18 mares due to the operative intervention with Modifiye Pouret's surgical method. In another study, the two-stage technique was modified and used in 6 mares with a 3<sup>rd</sup>-degree perineal laceration. Moreover, the recovery rate was 83.3%; the pregnancy rate was 50% (Samı et al., 2013).

### **Conclusion**

As a consequence of this, operative interventions in cases of perineal laceration have been shown to have a positive impact on the mare's fertility. As a result, it is beneficial to experiment with surgical interventions, particularly in mares who are genetically important.

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### **Ethical Statement**

This study does not present any ethical concerns.

### **Conflict of Interest**

The authors declared that there is no conflict of interest.

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