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## SURGICAL MANAGEMENT OF BILATERAL LABIAL RUPTURE BY VULVOPLASTY IN A CROSSBRED DOG

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### ABSTRACT

A two-year-old crossbred female dog was presented to the Department of Veterinary Gynaecology and Obstetrics, Veterinary College, Gadag, Karnataka, with a history of bilateral reproductive trauma to the genitalia. Physically the dog was active; feeding and voiding habits were normal. Except for the torn external genitalia and absence of bleeding the animal was normal. In line with the procedure for correction of breached vulva, the surgical site was aseptically prepared, anaesthetised with the pre-anesthetic drug Inj. Atropine @0.04mg/kg b.wt. and induction of anaesthesia was done with Inj Xylazine @1mg/kg b.wt. and Inj. Ketamine 10mg/kg b.wt. I/M, administered intramuscularly as an induction dose and Ketamine and Midazolam at a ratio of 1:2 was used for maintenance of anaesthesia. The dog was

positioned on dorso-ventral recumbency and urethral patency was maintained using a sterile 7-inch atraumatic, flexible catheter during the surgery. Commissural vulvoplasty was performed in a layered manner from the interior to exterior. Meticulous debridement was done until capillary bleeding and ruptured lips were closed in a synchronous manner in keeping with the normal anatomy of the vulva by using interrupted Lembert sutures. Inj. Meloxicam and Inj. Cefotaxime were administered as a pre-emptive analgesic and for antibiotic coverage, respectively. Postoperatively, the owner was advised to give Serratiopeptidase 10 mg twice daily orally and Amoxicillin-Sulbactam combination at the rate of 20 mg per kg body weight, twice daily for three days. Wound dressing was done once in two days. On day 15 postoperative, the original appearance of vulva was restored.

**Keywords:** Bilateral tear, vulval labia, surgical management, vulvoplasty

## INTRODUCTION

Injuries to the vestibule, vulva, and vagina are classified as first, second and third-degree lacerations depending on the extent and severity of tissue damage (Dreyfuss *et al.*,1990; Noakes *et al.*,1990). First degree perineal lacerations involve only the skin and vulval mucous membrane whereas in second degree perineal lacerations, the skin, mucous membrane, perineal body and constrictor vulvae muscles are involved. Third degree perineal lacerations involve structures that are damaged in a second-degree laceration as well as the anal sphincter and all the tissues between the vestibule, the vagina and the rectum (Heinze *et al.*,1970; Habel *et al.*,1966).

## CASE HISTORY AND OBSERVATION

A two-year-old female dog was presented to the Department of Veterinary Gynaecology and Obstetrics, Veterinary College, Gadag, with a history of bilateral trauma to the external genitalia, one day following dystocia and delivery of puppies. Physically the dog was active, feeding well and the voiding habits were also normal. The animal was normal clinically, except for the torn vulval lips and the absence of bleeding (Figure 1).



## TREATMENT AND DISCUSSIONS

The animal was administered Inj. Meloxicam at the dose rate of 0.2mg/kg body weight and antibiotic Inj. Cefotaxime at the dose rate of 20mg/kg before surgical intervention as a pre-emptive analgesia and for antibiotic coverage, respectively. The surgical site was aseptically prepared, anaesthetized with the pre-anesthetic drug Inj. Atropine at dose rate of 0.04mg/kg b.wt., and induction of anaesthesia by Xylazine at dose rate of 1mg/kg b.wt. and Inj. Ketamine at dose rate of 10mg/kg b.wt. I/M as an induction dose and a mixture of Inj. Ketamine and Inj. Midazolam at a ratio of 1:2 for maintenance of anaesthesia. The patient was positioned on dorso-ventral recumbency.

Urethral patency was maintained using a sterile 7-inch atraumatic, flexible catheter, after which commissural vulvoplasty was performed in a layered manner from interior to exterior. Meticulous

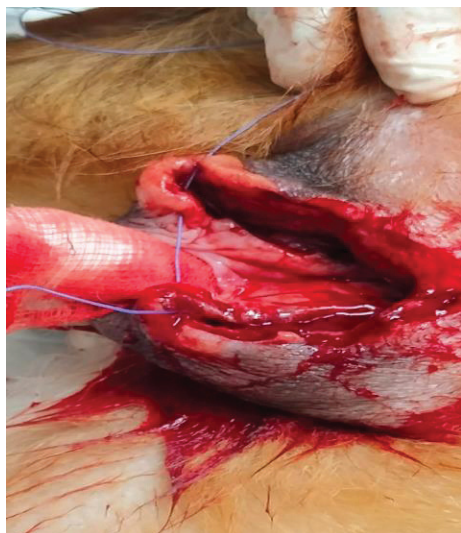


Figure 2 (a): Debridement of tissue where fresh bleeding is seen

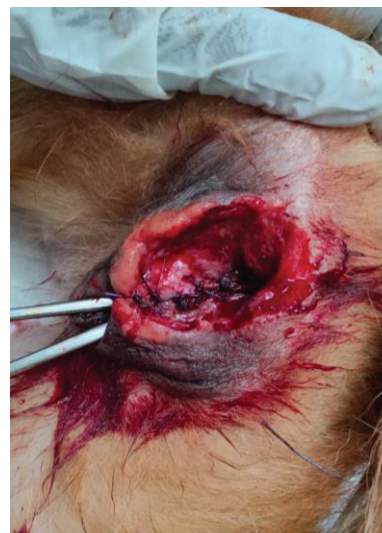


Figure 2(b): Suturing of the inner layer of muscles

debridement was done until capillary bleeding was noticed and lacerated vulval lips were closed in synchronous manner in alignment with the normal anatomy of vulva using interrupted Lembert pattern sutures (Figures 2a, 2b, 3a, 3b and 3c).

Postoperatively, the owner was advised to administer Serratopeptidase tablet 10 mg, twice daily and tablet of Amoxicillin-Sulbactam combination at the rate of 20 mg per kg body weight, twice daily for three days. Wound dressing was done once in two days.

A review of the literature on genital trauma and repair in dogs reveals limited reports, indicating that this case may provide novel insights. Hence, this case report could be a novel report on bilateral vulval labial tear and its repair

in dogs. Repair of tears in the vulva and vaginal canal is important considering the future whelping prospects of the animal in question. Although various authors differ slightly in their approach to repair of perineal lacerations in cattle and mares, when similar such lacerations occurred during the parturition, reconstruction of the vaginal canal was attempted. In horses, postoperative complications included urine pooling, complete dehiscence of the repair, constipation, tenesmus and reduced performance (Aanes, *et al.*, 1964). Dehiscence of surgical wound was the most common complication of perineal laceration and this can develop regardless of the type of surgical repair, however no such complications were seen in this case (Fig- 4a, 4b and 4c).





Figure 3(a): Application of first suture



Figure 3(b): Reinforcement suturing for the skin



Figure 3(c): After completion of suturing



Figure 4(a): Vulva after 15 days of vulvoplasty



Fig 4 (b): Vulva after 60 days of vulvoplasty



Fig 4(c): Vulva after 60 days of vulvoplasty

## CONCLUSION

Surgical management of bilateral vulval labial rupture by vulvoplasty in cross bred dog was found to be satisfactory and resulted in restoration of normal vulval structure and appearance.

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