

MEDIAN EPISIOTOMY APPROACH IN A MINIATURE POMERANIAN WITH VULVAL HYPOPLASIA: A CASE REPORT

S. Rangasamy¹, S. Sathishkumar², J. Umamageswari³, R. Sureshkumar⁴,
D. Reena⁵ and S. Alagar^{6*}

Department of Veterinary Gynaecology and Obstetrics
Madras Veterinary College
Tamil Nadu Veterinary and Animal Sciences University
Chennai – 600 007

ABSTRACT

This case report details the episiotomy approach employed in managing vulval *hypoplasia* in a two year old Miniature Pomeranian bitch. The animal was presented to the Teaching Veterinary Clinical Complex, Veterinary Gynaecology and Obstetrical Unit, Madras Veterinary College, displaying a history of greenish black discharge and continuous straining for two hours. The animal was bred before 64 days. Physical examination revealed a small vaginal opening, measuring approximately 1.5 cm in length. Digital examination indicated fetal hind limbs and tail extending into the vaginal passage, while all other vital parameters were within the normal range. Attempts to induce uterine contractions using Inj. Oxytocin and 10 % Calcium gluconate in 5 % DNS proved unsuccessful. Therefore, under local anesthesia (2 % Lignocaine injection), median episiotomy was made and a single live male puppy was successfully delivered with mild traction. Closure of the incision site was accomplished using PGA 1/0 with a simple interrupted suture pattern. The patient had uneventful recovery after 5 day treatment regimen, involving a single dose of subcutaneous Inj. Cefovecin (antibiotic) and anti-inflammatory drugs, along with meticulous wound management.

Key words: Hypoplastic vulva, Dystocia, Miniature Pomeranian and Median episiotomy

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¹Associate Professor and Head, Dept. of Gynaecology and Obstetrics, Veterinary College and Research Institute, Theni- 625 534

²Ph.D. Scholar

³Assistant Professor

⁴Assistant Professor, Resident Veterinary Services Section, Madras Veterinary College, Chennai - 600 007

⁵Associate Professor, Veterinary Clinical Complex, Pethappampatti, Veterinary College and Research Institute, Udumalpet – 642 126

⁶Assistant Professor, Dept. of Gynaecology and Obstetrics, Veterinary College and Research Institute, Theni - 625 534,

*Corresponding author Email id: dralagar5489@gmail.com

INTRODUCTION

Congenital abnormalities of the canine vulva are vulvar stenosis, vulvar cleft, vulvar atresia, clitoral hypertrophy, double vulvar formation and total vulvar agenesis (Wykes and Olson, 2003). The incidence of canine dystocia is typically below 5 %, but in certain breeds like French Bull, Boston Terrier, Chihuahua and Pug, it can elevate to 95 %, according to O'Neill *et al.* (2017). Episiotomy, a procedure aimed at facilitating difficult vaginal deliveries, serves to control and decrease the risk of dangerous perineal lacerations during normal labor. This current case involves dystocia attributed to a maternal cause of hypoplastic vulva and its corrective management through an episiotomy procedure.

CASE HISTORY

A two year old Miniature Pomeranian bitch, weighing 2.3 kgs, was brought to the Veterinary Clinical Complex, Veterinary Gynaecology and Obstetrical Unit, Madras Veterinary College, Chennai with a history of greenish black discharge and continuous straining for the past two hours, with the mating having occurred 64 days prior to presentation.

DIAGNOSIS

During the physical examination, it was observed that the length of the vaginal opening was approximately 1.5 cm (Fig. 1). Per-vaginal digital examination revealed fetal hind limbs and tail extending into the vaginal passage. The animal appeared active and alert, with a body temperature of 36.6 °C and but showed tachypnea, likely

attributable to stress and fear. All other vital parameters remained within the normal range. Radiological examination indicated a single fetus in posterior presentation and ultrasound examination revealed fetal heart rate of more than 200 beats per minute. Based on the history, physical examination, digital per-vaginal examination and imaging studies, the present case was diagnosed as a dystocia of maternal origin, specifically due to hypoplastic vulva.

TREATMENT AND DISCUSSION

To enhance uterine muscle contraction, an injection of Oxytocin at one IU per kg body weight and 1.0 ml/kg body weight of 10 % calcium gluconate intravenously over 10 to 20 minutes, along with 25 ml of 5 % DNS, were administered. However, after the induction of parturition, delivery was not successful due to hypoplastic vulva. Hence, under local anesthesia (Inj. Lignocaine 2 %), median episiotomy was made at the dorsal commissure of the vulvar lips and extended midline towards the anal sphincter (Fig. 2). Subsequently, a live male puppy was delivered with mild traction through a median episiotomy incision (Fig. 3). The incision site was closed with PGA 1/0 using an interrupted suture pattern (Fig. 4). The bitch received a single dose of subcutaneous antibiotic Inj. cefovecin (8 mg per kilogram), inj. meloxicam at 0.2 mg/kg body weight subcutaneously and the wound was cleaned with sol. povidone iodine. Additionally, povidone iodine ointment was applied to the wound twice a day for five consecutive days. Following the five day treatment, the pet recovered uneventfully.



Fig. 1. Hypoplastic vulva



Fig. 2. Median episiotomy incision



Fig. 3. Delivery of live puppy



Fig. 4. Simple interrupted suture pattern

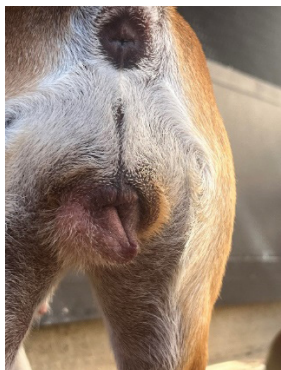


Fig. 5. Median episiotomy

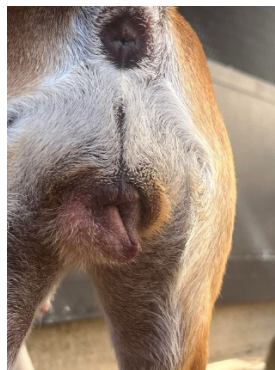


Fig. 6. Modified median episiotomy

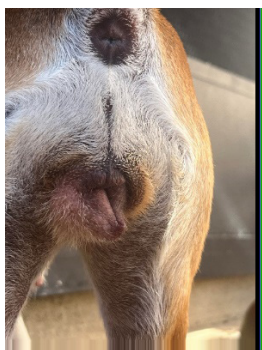


Fig. 7. J shaped episiotomy

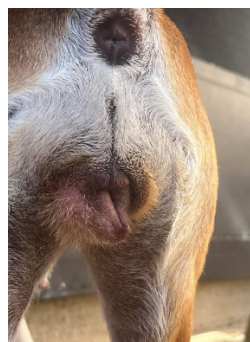


Fig. 8. Mediolateral episiotomy

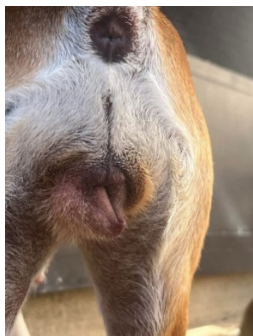


Fig. 9. Lateral episiotomy

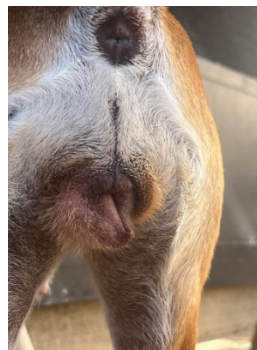


Fig. 10. Radical episiotomy

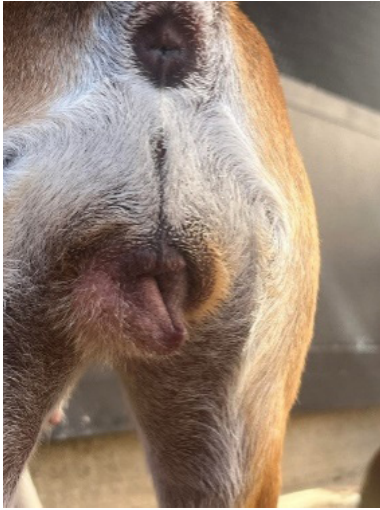


Fig. 11. Anterior episiotomy

Chaves *et al.* (2001) reported that 66.66 % of dystocia cases occurred in small breeds, 23.33 % in medium breeds and 10 % in large breeds. The breed of the dog significantly influences the course of whelping in female dogs, as noted by Chatdarong *et al.* (2007). Birth canal abnormalities can be detected and avoided through elective surgery, as highlighted by Farstad (2008). Episiotomy, a surgically controlled incision through the perineum (the muscular area between the vaginal opening and the anus) during vaginal delivery, provides sufficient space for labor, aids in augmenting difficult vaginal deliveries, and decreases pressure on the perineum, thereby reducing the incidence of severe perineal tears during delivery. While standard obstetric and midwifery texts typically describe two main types of episiotomy, median, and mediolateral (Arulkumaran, 2007). Kalis *et*

al. 2012 described seven different incisions: median episiotomy (Fig. 5), modified median episiotomy (Fig. 6), 'J'-shaped episiotomy (Fig. 7), mediolateral episiotomy (Fig. 8), lateral episiotomy (Fig. 9), radical lateral (Fig. 10) and anterior episiotomy (Fig. 11) and in the present case median episiotomy was preferred due to toy breed.

Administered at a dose of 8 mg per kilogram of body weight subcutaneously, Inj. Cefovecin belongs to the third generation of Cephalosporins, exhibiting a broad spectrum of activity against both Gram-positive and Gram-negative bacteria. Its mechanism of action involves the inhibition of bacterial cell wall synthesis, and the effects of the injection persist for up to 14 days. This aqueous, non-depot injection allows for rapid release, providing sustained and uninterrupted therapeutic drug concentrations. This formulation offers a convenient solution for dog owners, ensuring that their pets receive the necessary treatment without the stress of administering daily oral medications (Rangasamy *et al.*, 2021)

CONCLUSION

In the present case, as an integral part of the comprehensive treatment plan, a medial episiotomy procedure was employed to relieve dystocia due to hypoplastic vulva in a Miniature Pomeranian. Additionally, a single dose of parenteral Cefovecin was promptly and decisively resulted in a favourable prognosis for the overall well-being of the bitch.

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