



Successful Management of Prepartum Vaginal Prolapse in a Goat: A Case Report

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ABSTRACT

The present case study was conducted on 24 October, 2024 at the Referral Veterinary Polyclinic, ICAR-Indian Veterinary Research Institute (IVRI), aimed to document the clinical presentation, diagnostic approach, and effectiveness of conservative therapeutic management of prepartum vaginal prolapse in a doe under field conditions. Prepartum vaginal prolapse observed in the present doe during mid-gestation posed a potential risk to maternal stability and fetal viability if not managed promptly. The present case described a two year old doe presented with recurrent prolapse, primarily during urination and recumbency, at approximately 4.5 months of gestation in its second parity. The animal was maintained under field conditions and had no prior history of systemic illness or reproductive complications. Clinical examination revealed swollen vulval lips and protrusion of vaginal tissue, while per-vaginal examination indicated a relaxed birth canal with a closed external os, suggesting that parturition was not imminent. Transabdominal palpation and Doppler ultrasonography confirmed advanced pregnancy with two viable fetuses exhibiting normal cardiac activity. Hematological and biochemical parameters, including calcium, liver, and kidney profiles, were within normal physiological limits, ruling out metabolic causes. Based on clinical and diagnostic findings, the condition was identified as prepartum vaginal prolapse. Management focused on conservative and preventive measures, including anti-inflammatory therapy, topical treatment to reduce straining, and supportive nutritional supplementation, along with managemental modifications to minimize intra-abdominal pressure. Continuous monitoring throughout the prepartum period resulted in successful maintenance of pregnancy, with normal and uncomplicated kidding and no recurrence of prolapse post-parturition.

KEYWORDS: Vaginal prolapse, kidding, pre-partum, doppler ultrasonography, goats

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1. INTRODUCTION

Prolapse in small ruminants can manifest as prepartum conditions, such as vaginal or cervico-vaginal prolapse, and postpartum complications like uterine prolapse (Roberts, 2004). These conditions represent significant reproductive disorders that can adversely affect animal welfare and productivity if not addressed promptly (Christodouloupoulos, 2022). It is crucial to distinguish between goat uterine prolapse and vaginal prolapse. The uterine prolapse is characterized by a bright red appearance and requires a veterinary emergency occurring post-delivery (Singh et al., 2020). Delayed treatment of uterine prolapse may result in severe hemorrhage, shock, or even death of the animal (Gupta, 2018). In contrast, vaginal prolapse represents as a pink to red mass extruding from the vaginal canal, which may appear weeks prior to parturition, typically resolved with parturition and generally no immediate veterinary intervention required, although timely management is advisable (Kopf, 2022). Vaginal prolapse generally involves the eversion of the vaginal floor, lateral walls and a portion of the vaginal roof through the vulva, including the cervix (Roberts, 2004). In does, this condition has been documented within the last five weeks of gestation and is less prevalent compared to ewes. In goats, it is predominantly observed in heavily bred or short-bodied does during late gestation, particularly when muscle tone is diminished, mostly due to factors such as pressure from multiple fetuses, a distended bladder, coughing, or physical exertion (Kopf, 2022). Environmental stressors and poor housing conditions may further exacerbate the risk in susceptible animals (Vaid et al., 2018). Other contributing factors include hormonal influences, dietary and management practices, pelvic ligament relaxation, decreased muscle tone associated with hypocalcaemia, and increased intra-abdominal pressure (Bhat et al., 2022; Drost, 2007). Genetic susceptibility has also been suggested as a potential contributing factor in recurrent cases (Anonymous, 2026) (Kumar et al., 2016). Proper nutritional management, including adequate mineral and vitamin supplementation, plays a crucial role in maintaining reproductive health (Upreti and Ansari, 2025). Balanced feeding strategies not only support gestation but also help in maintaining optimal muscle tone and tissue integrity (Ding et al., 2024). Regardless of the potential predisposing factors, three essential conditions must be satisfied for cervical vaginal prolapse (CVP) to occur. Firstly, the vaginal wall must be in a state conducive to eversion, and the vaginal lumen must be sufficiently spacious. Secondly, both the vulva and vestibular walls need to be relaxed. Finally, there must be a force capable of displacing the vaginal wall, leading to its everted position (Noakes et al., 2018). Management of cervico-vaginal prolapse in does primarily involves reduction

of the prolapsed mass and prevention of recurrence, with various conservative techniques described in the literature, including retention sutures and external support devices (Noakes et al., 2018, Roberts, 2024). However, recurrence remains a common concern, particularly during late gestation and at the time of parturition. Although the condition often resolves following relief of intra-abdominal pressure after delivery, affected animals may require timely intervention to prevent complications and ensure successful outcomes (Kopf, 2022). Cervico-vaginal prolapse in does, although less common than in ewes, poses a significant clinical challenge under field conditions due to the risk of recurrence, tissue trauma, and potential compromise of fetal viability if not managed appropriately (Bhat et al., 2022). Effective management requires timely recognition and selection of suitable therapeutic strategies to maintain pregnancy and ensure favorable outcomes. Training and awareness among livestock owners can further aid in early detection and prompt veterinary consultation (Devansh et al., 2023). The present case report describes the successful conservative management of prepartum vaginal prolapse in a doe under field conditions. Thus, this case highlighted the importance of early diagnosis, appropriate clinical management, and supportive care in preventing progression of prepartum prolapse and ensuring favorable reproductive outcomes in does.

2. MATERIALS AND METHODS

The present case study was conducted on 24 October, 2024 at the Referral Veterinary Polyclinic, ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, Bareilly (28.37°N, 79.41°E), India. A two-year-old goat, weighing approximately 30 kg, was brought to the Referral Veterinary Polyclinic of ICAR-Indian Veterinary Research Institute (IVRI) Izatnagar (Figure 1), with the history of recurrent vaginal prolapse from the last four days, primarily during urination and/or resting, was reported by the owner.



Figure 1: Doe presented with prepartum vaginal prolapse

The clinical evaluation of the animal was done through, the physical examination of the animal, focusing on the external genitalia that revealed pink and swollen vulval lips (Figure 2). Transabdominal palpation of the abdomen confirmed the presence of pregnancy. Furthermore, the udder appeared engorged and swollen, with edematous teats, suggestive of late-stage pregnancy (Figure 3).



Figure 2: Pink and swollen vulval lips

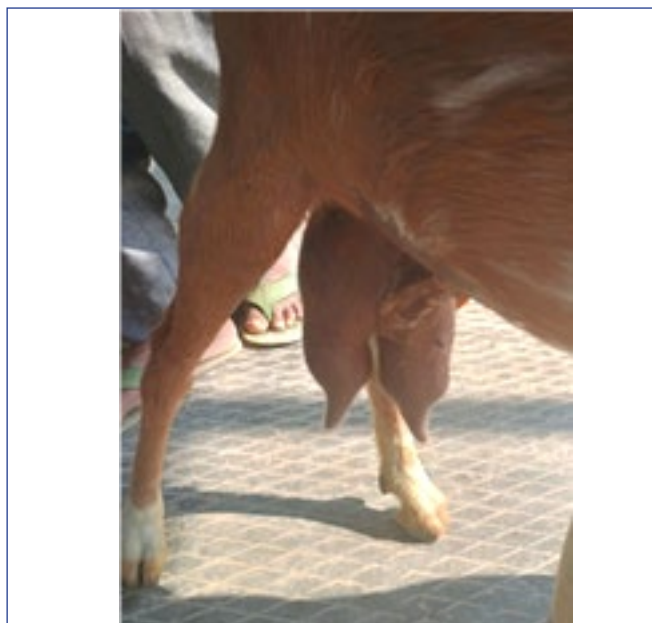


Figure 3: Engorged and edematous teats

During per-vaginal examination, a full hand's passage was observed leading to the vagina, along with notable relaxation of the pelvic ligaments and adjacent structures. Edema and laxity were evident in the vulva and vulvar sphincter muscles, while the external os remained completely closed, indicated that parturition is not imminent. Additionally, a pink mass

was protruding from the vagina, characterized by prominent blood vessels on its surface (Figure 4).

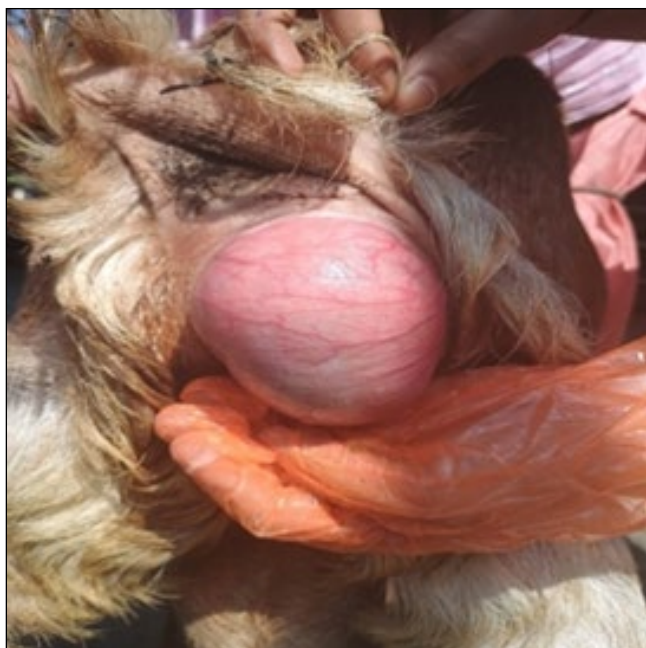


Figure 4: Protruding pink vaginal mass observed in the doe

Doppler ultrasonographic assessment has confirmed, that the animal was pregnant having two viable intrauterine fetuses, exhibiting normal foetal movements. The foetal cardiac activity was within physiological limits, having heart rates of 212 and 248 bpm, while the volume of amniotic fluid was mildly reduced than normal (Figure 5).

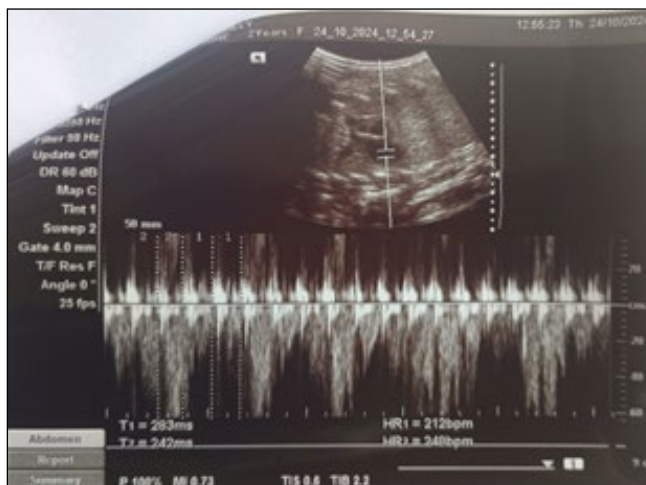


Figure 5: Doppler USG reveals doe positive for pregnancy with viable fetuses

Laboratory investigations by collection of blood sample including hematological analysis, indicated that the values fell within normal reference ranges. Furthermore, serum profiling indicated that both liver function tests (LFT) and kidney function tests (KFT) were within normal

physiological limits. Calcium levels, measured using a colorimetric method, were found to be 11.06 mg dl⁻¹, suggesting that hypocalcemia was not the cause of the prolapse.

3. RESULTS AND DISCUSSION

In alignment with the animal profiling results, the therapeutic management plan for this doe emphasized the implementation of preventive strategies to reduce the risk of further prolapse prior to parturition, particularly in her advanced gestational stage. Tolfenamic acid at 2.00 mg kg⁻¹ body weight was administered intramuscularly to reduce pain. The topical application of lignocaine gel and Soframycin ointment was used to diminish local sensitivity and alleviate straining. The prolapsed vaginal mass was gently cleaned using an antiseptic solution and carefully repositioned to its normal anatomical location. Topical antimicrobial therapy was applied to maintain local hygiene and prevent secondary infection. The owner was advised to confine the doe in a stall with elevated hindquarters and to provide feed in divided portions, as reduction in roughage content and regulation of water intake could help minimize intra-abdominal pressure, thereby lowering the risk of recurrence. Additionally, oral supplementation of calcium, phosphorus, and vitamins (OSTEOVET and VIMERAL) was prescribed as supportive therapy. Following the above therapeutic and managerial interventions, the prolapsed vaginal mass remained successfully retained in its normal anatomical position without immediate recurrence. A marked reduction in vulvar edema and straining was observed within 24–48 hours of treatment. The animal showed improved comfort with normal feeding behavior and no signs of distress. During subsequent monitoring, no recurrence of prolapse was noticed during urination or recumbency. The doe remained clinically stable throughout the remaining gestation period, and no additional therapeutic intervention was required prior to parturition. Prompt intervention in cases of cervico-vaginal prolapse was suggestive for achieving a favorable prognosis. To the best of our knowledge, this represented one of the first reported cases of successful conservative management of prepartum vaginal prolapse in a doe under Indian field conditions. The pathogenesis of prepartum vaginal prolapse was primarily associated with increased intra-abdominal pressure along with relaxation of pelvic ligaments and vaginal tissues during advanced gestation (Noakes et al., 2018). Similar to other endocrine-associated reproductive conditions such as pseudopregnancy, hormonal imbalance might contribute to altered uterine tone and reproductive tract dynamics, thereby playing a role in the development of prolapse conditions (Bhat et al., 2022; Upreti et al., 2026). Differential diagnoses such as uterine prolapse and vaginal

edema were ruled out based on the clinical presentation, intact cervix, and absence of postpartum history (Singh et al., 2020). Such proactive measures were crucial for ensuring successful parturition, the well-being of subsequent pregnancy, and future fertility of the doe (Roberts, 2004; Noakes et al., 2018). A comprehensive approach integrating nutrition, health management, and environmental control was essential for achieving optimal reproductive outcomes (Upreti and Ansari, 2025).

The animal was meticulously monitored throughout the prepartum period until parturition, during which the process of kidding proceeded without any apparent complications, exhibiting a normal and physiological course. No signs of prolapse were observed in the doe subsequent to parturition. These findings suggested that, with the implementation of appropriate management practices, prepartum prolapse did not adversely affect the progression of kidding and allowed successful and uncomplicated delivery in the doe. The favorable outcome observed in the present case further emphasized that timely conservative management, combined with appropriate nutritional and environmental modifications, can effectively prevent progression of prepartum vaginal prolapse in does (Noakes et al., 2018). Continuous monitoring during the late gestational period played a crucial role in early detection of recurrence and ensured better clinical outcomes (Roberts, 2024). In addition, proper owner awareness regarding feeding practices, housing management, and early reporting of clinical signs was essential for successful management of such conditions under field conditions. Early intervention not only minimized complications but also helped in maintaining pregnancy to term without compromising maternal or fetal health.

4. CONCLUSION

Prepartum vaginal prolapse in does was effectively managed through timely diagnosis and appropriate conservative treatment. Strategic intervention focusing on reduction of straining, maintenance of hygiene, and supportive nutritional supplementation successfully prevented progression of prolapse and ensured continuation of pregnancy to term. No recurrence was observed, and normal, uncomplicated kidding occurred, indicating that proper management did not compromise fetal viability or parturition outcomes.

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