

Surgical Management of Dystocia Due to Ring Womb in a 2½ Year-Old Red Sokoto Crossed Doe at Veterinary Clinic Sokoto, Sokoto State, Nigeria

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Received 20 February, 2025, Accepted 15 March, 2025, Published 30 March, 2025

A 2½ year-old, 40 kg Red Sokoto crossed Doe was presented to the Large Animal Clinic unit, Veterinary Clinic Sokoto with a complaint of 24-hour history of persistent straining without delivery. Clinical examination revealed incomplete dilation of the cervix and slight discharges from vagina. A tentative diagnosis of dystocia due to incomplete cervical dilation (ring womb) was made. The doe underwent a left flank cesarean section under local anaesthesia. Two dead female fetuses were delivered. Postoperative treatment included Penstrep ® injection, multivitamin injection, diclofenac injection, and albendazole suspension. The doe recovered uneventfully. This case highlights the importance of early surgical intervention in goats with incomplete dilation of cervix dystocia to reduce maternal morbidity and preserve reproductive potential.

Keywords: Caesarean Section, Dystocia, Goat, Incomplete Cervical Dilation, Sokoto State

INTRODUCTION

Dystocia is a significant cause of reproductive loss in goats, resulting from foetal malpresentation, foeto-maternal disproportion, or maternal factors such as failure of cervical dilation (ring womb). It contributes to 12-18% of caprine periparturient losses in northwestern Nigeria (Ahmad *et al.*, 2017). Ring womb refers to partial or complete failure of cervical dilation despite effective uterine contractions, and it is a recognized but less common cause of caprine dystocia (Kafi *et al.*, 2024; MSD Vet Manual, 2023).

The condition is associated with primiparity, hormonal imbalance, and structural rigidity of the cervical tissue (Noakes *et al.*, 2019). When medical or manual interventions fail, caesarean section remains the most effective management strategy (Naoman *et al.*, 2013). This report describes the management of incomplete cervical dilation dystocia in a Red Sokoto crossed doe.

Case Presentation

A 2½ year-old Red Sokoto crossed Doe weighing 40 kg was presented to the Large Animal Clinic unit, State Veterinary Clinic, Sokoto, with a complaint of continuous straining for approximately 24 hours without delivery. History further revealed the doe was fed on wheat bran, bean husk and hay, and was managed semi-intensively with 5 other goats. The owner reported no prior medical intervention.

Clinical Examination

On physical examination, all the vital signs were within the normal range, the doe was alert with repeated abdominal straining and signs of discomfort. Before the per-vaginal examination, the external genitalia was cleaned using warm water and a sterile gauze bandage. Lubrication of the gloved hand was done with paraffin oil, and a careful per-vaginal examination was carried out. Vaginal examination revealed an incomplete cervical

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Plate I; The left paralumbar fossa aseptically prepared for surgery.

dilation despite palpable uterine contractions. Based on history and clinical findings, a tentative diagnosis of dystocia due to incomplete cervical dilation (ring womb) was made.

Case Management

The doe was restrained on surgical table at right lateral recumbency, and the left paralumbar fossa was clipped, draped and aseptically prepared for surgery in a routine fashion for performing caesarean section (Plate above I).

Premedication was achieved using xylazine at 0.05mg/kg as sedative and an inverted-L block regional anaesthesia 2% lignocaine hydrochloride (total 15ml) was administered by local infiltration for desensitization of the left flank region.

A vertical skin incision approximately 10-12cm was made on lower left flank region midway between the last rib and the tuber coxae of the same side. The Skin was flipped and the fascia was separated by hand manipulation. Abdominal muscles were bluntly dissected and separated, and the peritoneum was exposed. The



Plate II; Dead fetuses.

peritoneum was incised carefully to avoid any damage to the underneath organs, the gravid Uterus was identified, exteriorized and packed with sterile gauze to avoid any spillage of the uterine content into the abdominal cavity which might lead to intra-abdominal sepsis. A longitudinal incision was made on the greater curvature of the gravid horn, and two female dead fetuses (2.5kg; 2.3kg) were delivered (Plate II Above).

The incised uterus was sutured in a double inversion suture pattern i.e cushion and lambert sutures with synthetic absorbable suture (chromic catgut 1). A thorough lavage of the inner surface of uterus and

peritoneal cavity with normal saline was performed to reduce chances of contamination before closure of abdominal cavity. Intrauterine bolus/ecbolic (Vetcotrim®) was administered intrauterine. The incised peritoneum and the individual muscular layers were sutured by applying simple continuous sutures with chromic catgut 1. The subcutaneous tissue also was closed by chromic catgut 0 using simple continuous pattern. The skin layer was closed by synthetic non-absorbable suture (nylon 1) using ford interlocking (Plate III below).

Postoperative medications included Penstrep® injection (procaine penicillin 200 mg and



Plate III; The Patient after surgery.

dihydrostreptomycin 250 mg) intramuscularly for 5 days, multivitamin injection intramuscularly once daily for 3 days, diclofenac sodium injection intramuscularly for 5 days, and albendazole suspension orally as a single dose along with antiseptic dressing for the suture site with povidone iodine for 10 days. The doe was monitored for appetite, wound healing, and the sutures were removed on day 14 after surgery. Recovery was uneventful.

DISCUSSION

Failure of cervical dilation in goats is a well-recognized cause of dystocia, with variable reported incidence (Kafi *et al.*, 2024). Medical interventions such as oxytocin,

calcium borogluconate, or manual dilation have low success rates in true ring womb cases (Noakes *et al.*, 2019). Prolonged dystocia increases the risk of fetal death, uterine rupture, and metritis. In this case, the prolonged labour likely contributed to the death of both fetuses.

Surgical intervention via caesarean section remains the treatment of choice when cervical dilation cannot be achieved. The left flank approach under local anaesthesia is practical in field and clinical settings, allowing the doe to remain on lateral recumbency with minimal restraint and preserves rumen function and minimizes peritoneal contamination (Odedara *et al.*, 2017; Jos, 2020). Prompt surgery is associated with better maternal prognosis, even when fetal viability is

compromised (MSD Veterinary Manual (2023)).

The Red Sokoto breed is a major indigenous goat in Northern Nigeria, valued for its skin quality and adaptability. Timely management of reproductive emergencies in this breed is important for maintaining herd productivity.

In conclusion, closed cervix dystocia should be suspected in does with prolonged labour and no cervical dilation on vaginal examination. Early recourse to cesarean section is recommended to minimize maternal morbidity and preserve future reproductive performance.

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