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Management of Dystocia Due to Foetal Malposture in a 3-year-old Uda Ewe: A Case Report

Ibrahim, K.[1, 2, *], Bello, A. A.[3], Khumran, A. M.[2, 3] and Babashani, M.[4]

[1]Veterinary Unit, Department of Agriculture and Natural Resources, Katsina Local Government Area, Katsina State, Nigeria.

[2]Faculty of Surgery, Theriogenology Specialty, College of Veterinary Surgeons, Nigeria, Zaria Study Centre, Kaduna State, Nigeria.

[3]Department of Theriogenology and Production, Faculty of Veterinary Medicine, Ahmadu Bello University Zaria, Kaduna State, Nigeria.

[4]Veterinary Teaching Hospital, Ahmadu Bello University, Zaria, Kaduna State, Nigeria.

***Corresponding author:** Ibrahim Kabir; mkaibs2012@gmail.com; +234 803 786 4940

Abstract

Dystocia, or difficult parturition, is a significant challenge for small ruminant farmers, often leading to maternal and foetal mortality. This case reports the successful non-surgical management of dystocia in a 3-year-old Uda ewe weighing 55 kg, presented with prolonged labour and a hanging placenta. Clinical examination revealed a second, dead foetus with a flexed forelimb. Haematology results indicated leukocytosis and anaemia. Management involved obstetric manoeuvres by correcting the limb flexion through repulsion and manual retraction, followed by uterine lavage with warm saline and Septol® to reduce bacterial load. Vetcotrim® boli and systemic antibiotics were administered. The dead foetus was delivered using obstetrical techniques, and the ewe recovered, with her vital signs and appetite improved within five days. The first lamb from the earlier lambing remained active and suckled milk well. It was concluded that dystocia in sheep could be resolved without resorting to a caesarean section. Obstetrical manoeuvres application along with intrauterine uterine lavage followed by the administration of Vetcorim® effectively prevents septic metritis in sheep. This case management approach is more useful in remote areas with limited surgical facilities and equipment. Compared to a caesarean section, this method is relatively inexpensive. It is recommended to practitioners to reserve caesarean sections as a last resort to save time and reduce expenses for clients. The case management emphasises effectiveness and cost-efficiency (₦10,000) of non-surgical interventions in resource-limited settings. It also recommends timely intervention and the need for access to imaging modalities in dystocia management.

Keywords: Dystocia, Foetal malposture, Management, Uda ewe.

INTRODUCTION

Dystocia is difficulty in parturition, which requires obstetric assistance for successful delivery (Kabir, 2017), and is a significant concern in sheep breeding. Normal parturition relies on proper foetal posture, specifically the extension of the forelimbs and the head (Cowley *et al.*, 2023). However, abnormal foetal positions, such as lateral deviation of the head and neck or flexion of the carpal and shoulder joints, are common causes of dystocia in ewes (Purohit, 2006). Parturition, or giving birth (eutocia), involves the expulsion of the foetus and placenta in three stages (Cowley *et al.*, 2023). Stage one, lasting 2-12 hours, involves cervical softening, myometrial contractions, and cervical dilation, ending with the rupture of the chorioallantois (Cowley *et al.*, 2023). Stage two begins when the foetus enters the pelvic region and includes forceful abdominal contractions, the expulsion of allantoic fluid, and delivery of the foetus, taking 3-4 hours (Cowley *et al.*, 2023). Stage three starts after the foetus is delivered and concludes with the expulsion of fetal membranes, with the placenta typically passed within 4-8 hours (or 15-20 minutes in small ruminants) (Cowley *et al.*, 2023). Dystocia presents a serious threat to both ewes and their offspring, often leading to mortality and causing severe trauma to the maternal birth canal due to excessive traction (Talib *et al.*, 2023).

Dystocia, while considered relatively uncommon in well-managed small ruminant herds (historically <5% of births), still poses a significant threat to the productivity and profitability of sheep and goat operations (Bhattacharyya *et al.*, 2015). The reported incidence of dystocia in sheep and goats varies considerably, ranging from 3% to as high as 50% in some studies (Balasopoulou *et al.*, 2022). This variation may be attributed to breed differences, management practices, and the specific populations studied (Ahmed *et al.*, 2017). Factors such as first-lambing ewes, male foetuses, and the winter season have been associated with a higher prevalence of dystocia (Balasopoulou *et al.*, 2022). The origins of dystocia can be either maternal or foetal. Foetal causes include abnormal positioning, congenital malformations, and excessively large foetuses (Caroline *et al.*, 2020). Maternal factors contributing to dystocia include incomplete cervical dilation, uterine torsion, a narrow pelvic canal, uterine inertia, and failure of the cervix to dilate (Purohit, 2006). Consequently, dystocia can result in stillbirth or reduced lamb survival rates (Caroline *et al.*, 2020). In dystocia, timely intervention is critical, as delays increase the risk of lamb mortality and septic metritis in ewes (Ismail, 2017). The impact of dystocia on small ruminant production is multifaceted and can lead to substantial economic losses (Bruce *et al.*, 2021). The losses include increased mortality from trauma, exhaustion, and delayed intervention; reduced reproductive performance due to conditions like septic metritis and retained placenta, impacting future fertility; lower productivity in surviving offspring with reduced vigor and growth; decreased milk production in affected mothers; higher veterinary and labor costs for managing difficult births, often requiring intervention; and culling of ewes or does with repeated issues, leading to replacement costs (Tzora *et al.*, 2002; Bruce *et al.*, 2021). Management strategies for dystocia encompass obstetrical manoeuvres, surgical intervention (caesarean section), or fetotomy in cases of foetal death (Bruce *et al.*, 2021; Praveen *et al.*, 2022). Caesarean section is generally indicated when vaginal delivery is not possible, when obstetrical manipulations are unsuccessful (Yakubu *et al.*, 2020). This case report emphasises the application of uterine lavage in conjunction with obstetrical manoeuvres for managing dystocia. It advocates for non-surgical management in field and remote settings and offers a cost comparison between surgical and non-surgical approaches, aspects often overlooked in previous literature. Non-surgical management of dystocia in sheep is frequently employed in field conditions due to limited access to medical facilities and specialised care. Its practicality, lower cost, reduced risk of complications, and the necessity for prompt intervention make it a vital approach. However, adequate training and preparation are essential for achieving successful outcomes.

Case Presentation

Case history

A 3-year-old Uda ewe weighing 55 kg was reported from the Gidan-Dawa area of Katsina town, Katsina State, to the Katsina Local Government Veterinary Clinic on 12/2/2024. The client's chief complaint was that the sheep had lambed a female kid 24 hours before his complaint, and the placenta was hanging outside. On visitation to the flock, she was kept with 5 others (3 adults and 2 lambs). They were fed on groundnut leaves, grass, and mineral blocks. The ewe had a four to five-month history of mating and had received routine treatments including Sambezole® suspension, Vitoxy® 20% L.A., Multinor®, and vaccination against PPR (*Peste des petits ruminants*).

Clinical examination

Physical examination revealed a distended abdomen, hanging mass at the birth canal, straining, and recumbency (Plate IA). On auscultation, teeth were grinding by the dam. On palpation of the dam's birth canal, there was another foetus with left-side forelimb flexion. There was an anterior presentation, and the head was between the limbs. The lamb's head started coming out of the birth canal, and the tongue was visible externally (Plate IB). The dead lamb was having foul-smelling.

Plate I: The ewe was straining with the first kid by her side (**A**). The dam stands with a hanging mass (blue arrow) and the tongue of the foetus (yellow arrow) – **B**.

Investigations

The blood sample was taken from the jugular vein using a sterile syringe for a hemogram to check the health status of the dam and know if it could be fit for surgery in case obstetrical manoeuvres failed. Obstetrical manoeuvres were applied to relieve the dystocia.

Management

The limb flexion was corrected after repulsion, while the head and the body were manually retracted gently. Uterine lavage was made using warm Normal saline (Sodium Chloride B.P 0.9g water for injection B.P 100ml) and Septol ® (2.3% pine oils and 1.1 % 5-Chloro 1.1 % 5-Chloro 2- 2-Hydroxy diphenylmethane) in a ratio of 500mls of Normal saline to 2 mls of Septol ®. The Septol ® was added as a disinfectant to reduce the bacterial load that may be present. Administration of two Vetcotrim® (Sulphadiazine BP (Vet) 2.0g + Trimethoprim (Vet) Bp 0.4g) boli intrauterine once. This drug is cheap, available, and clinically indicated for use in caesarian section or management of conditions involving a dead foetus, retained placenta, and obstetric manipulations in sheep. It is bactericidal against gram-negative and gram-positive bacteria that cause infectious metritis. The mammary gland of the dam was engorged with milk. The umbilical cord of the other lamb was examined, and the lamb had good vigour. The TPR was 40.2˚C, 101 bit/minute (b/m), and 42 cycles/minute (cy/m). The dam was given Gentacure-10® injection (Gentamicin Sulphate 120.5mg base 100mg) 4mg/kg x 3/7 i.m, which is bactericidal and effective against many bacteria along the genito-urinary tract, Diclofenac injection (Diclofenac Sodium 75mg/3ml) 1.4mg/kg x 3/7 i.m was administered before the management which provides analgesic, antipyretic and anti-inflammatory functions to the sheep during and post-management, and Bio-Multimino® injection (Dextrose 50mg+ Calcium Chloride 2mg + Potassium Chloride 2mg + Magnesium Chloride 2mg + Sodium Acetate 7.5mg+ L-Methionine 0.525mg + L- Tryptophan 0.715mg + L- Cysteine HCL 0.02mg + L- Therionine 0.35mg + L- Isoleucine 0.525mg + L – Phenylalanine 0.35mg + L – Valine 0.525mg + L – Lysine HCL 0.525mg + L – Leucine 0.6mg + Riboflavin 0.05mg + D – Pantothenol 0.1mg + Pyridoxine HCL 0.1mg + Nicotinamide 3mg + Thiamine HCL 0.1mg) 1ml / 10kg x 3/ 7 i.m to boost the sheep's metabolic activities and minimise stress. The client was advised to add groundnut cake in addition to their normal feed, which will improve the quality of the feed given to the ewe. Management of dystocia in sheep involves a choice between obstetrical manoeuvres and surgery, which requires a thorough evaluation of several factors. These include the severity of the dystocia, foetal viability, the ewe's health, available resources, the urgency of the situation, the operator's expertise, and the potential for complications. Non-surgical methods are often applied in field settings due to their immediate applicability and practicality. However, surgical intervention may be necessary in severe dystocia cases or when non-surgical attempts are unsuccessful. Despite these advantages, non-surgical management carries risks, such as a higher chance of injury if performed incorrectly and limited diagnostic capabilities. A limitation of this case report is the lack of an ultrasound machine, which would have been beneficial for assessing fetal viability, presentation, posture, position, and uterine health status. In addition to that, uterine discharge samples were not collected for microbial culture and sensitivity tests. This decision was based on the uterine lavage and availability of Vetcotrim® bolus, which is clinically indicated for uterine infections.

RESULTS AND DISCUSSION

The laboratory results revealed leukocytosis and anaemia (Table 1).

Table 1. Haematological findings

PARAMETERS	OBTAINED VALUES	REFERENCE VALUES
PCV (%)	21.00	27.00 - 43.00
RBC ($\times 10^{12}$cells/l)	1.86	6.60 - 9.90
Hgb (g/dl)	9.30	9.00 - 14.00
MCV (fl)	59.55	28-40
HCT (%)	11.50	30-38
WBC ($\times 10^{9}$cells/l)	18.60	5.60 - 17.00
Lymphocytes (%)	95.4	40-75

Source: Brar *et al.* (2014).

Interpretation: *Leukocytosis and anaemia*

The leukocytosis obtained in this case agrees with the findings of Yakubu *et al.* (2020), who reported that a dead foetus stayed for a day in a uterus; pregnancy, stress, and pain associated with the dystocia can cause leukocytosis. The mild anaemia seen in this case from the haematology (Macrocytic normochromic) can be due to dietary deficiencies such as minerals, vitamins especially B12, and Iron agrees with the findings of Esievo (2017) and Erhabor *et al.* (2021) that reported anaemia can be seen during pregnancy and in case of nutritional deficiency. The improvement in the quality of the feed and the treatment facilitated the recovery and success of the management.

The dead and eviscerated foetus was delivered using obstetrical manoeuvres successfully (Plates IIA and IIB). This concurs with Caroline *et al.* (2020), who stated that dystocia can result in lambs that are born dead or survive parturition. This also agrees with Hiranya *et al.* (2015), who reported that the obstetrical manoeuvres approach is mostly applied in field conditions, but disagreed with Talib (2023), who stated that all emergency cases of dystocia are treated via caesarean section. The difficulty encountered during management of this case and similar cases is for the practitioner to recognise the lambing difficulty, especially if the pelvic canal is small. In a caesarian section, regardless of the size of the pelvic cavity incision is made on the paralumbar fossa region passing through the skin, muscles and uterus to deliver the foetus successfully (Yakubu *et al.*, 2020). The difference between these approaches can be due to the experience of a practitioner, the animal species, and the condition of the animal. The evisceration seen in this case can be due to the time the dead foetus stays in the pelvic canal, which makes the skin too soft and tears off when obstetrical manoeuvres are applied.

Plate II: Delivering of the dead foetus using obstetrical manoeuvres (**A**). The delivered dead foetus with evisceration (red arrow) - **B**.

In small ruminants, the obstetric manipulation of the foetus is often cumbersome (Dutt *et al.*, 2018). Delayed and prolong attempts for vaginal delivery can affect the outcome of the case severely (Dutt *et al.*, 2018). Ewes that experience mild dystocia, managed quickly and gently without significant complications, have a better prognosis for future fertility compared to those with severe, complicated dystocia and subsequent infections or injuries (Zuhair, 2017; Voigt *et al.*, 2021). Careful management and monitoring are essential to maximise the reproductive potential of ewes that have experienced dystocia. Keeping records of dystocia events and subsequent reproductive performance can help inform management and culling decisions within a sheep flock (Phoebe, 2019). On the first day of the dystocia management, an examination of the pelvic cavity revealed that the dystocia was due to flexion of the extremities. This agrees with Ismail (2017), who reported that the causes of dystocia in ewes were related to the foetal extremities and abnormal presentation.

On the second day, the vital parameters of the dam (TPR) were 39.8°C, 99 beats/minute (b/m), and 39 cycles /minute (cy/m). The vulva of the dam was intact, and the foul smell reduced, and the lamb was alert and, able to suck milk from the dam. The foul smell reduction can be due to the uterine lavage made to avoid uterine infection, which can cause septic metritis due to ascending infection and put the life of the dam at risk of death, and this agrees with the report of Ismail (2017) who stated that ascending infection can lead to septic metritis, retained placenta and, death of an animal. The uterine lavage and Vetcotrim® administration (intrauterine) prevented the post-management complications associated with the uterus that may arise, and this is similar to the report of Pandey *et al.* (2018), who successfully managed dystocia in sheep where a dead macerated foetus was delivered. The report involves intrauterine flush with 150 mL of 0.85% NaCl solution, followed by administration of 2 furea bolus; antibiotic (5 mL of enrocin); analgesic (2 mL of melonex), corticosteroid (2 mL of Dexona), supplementary therapy of tribvet 5 mL and uterine cleanser utrifit 10 mL orally.

On day three, the TPR were 39.6°C, 98 b/m, and 33 cy/m, respectively. The discharge odour from the vulva of the dam was off, and the appetite was improving. The lamb was healthy and suckled milk very well. On the fourth day, the TPR were 39.2°C, 96 b/m, and 30 cy/m, respectively. There was serous discharge from the vulva. The appetite improved, and the lamb was active and suckling milk (Plate IIIA). Finally, on day five, the TPR was 38.9°C, 93 b/m, and 27 cy/m, respectively. There was no discharge from the vulva, and the dam ate food well (Plate IIIB). The lamb was active and in good condition.

Plate III: The other lamb was suckling milk from the dam (**A**). The dam was feeding (red arrow) together with the others (**B**).

This case management cost ten thousand Naira (₦10,000), including the cost of haematological analysis. This is similar to the findings of Hiranya *et al.* (2015), who reported the average total cost for relieving dystocia in small ruminants by obstetrical mutation and by caesarean section (including the cost of sutures and anaesthesia) to be Rs. 215.00 and 570.00 ($ 2.5 and $ 7.0), respectively. This can be due to the similarity in the economies of our countries. Dystocia management may be difficult in cases presented beyond 24 hours of the 2nd stage of labour (Mehta *et al.* 2002), which may require removal of one of the limbs by fetotomy or, in some cases, even caesarean section when the foetus is dead and emphysematous (Ahmed *et al.*, 2015). Carpal and shoulder flexions may be corrected manually, and the foetus can be delivered by traction after sufficient lubrication (Ahmed *et al.*, 2015; Prohit, 2022).

CONCLUSION

It was concluded that dystocia can be managed without performing a caesarean section. Nutritional support during pregnancy, early recognition and intervention in case of dystocia, and diligent postpartum monitoring in the management of dystocia determine the recovery and the success. Supportive care, including intrauterine Vetcorim® administration and uterine lavage, prevents septic metritis in sheep. The care not only ensures the recovery of the ewe but also supports the health and survival of the lamb, consequently benefiting the productivity and sustainability of small ruminant operations. This case management approach can be applied in similar cases, especially in remote areas with a shortage of surgical equipment. It is relatively safer and cheaper compared to a caesarean section.

RECOMMENDATION

Practitioners should apply obstetrical manoeuvres very well when managing dystocia, reserving caesarean section as the last option to save time and reduce client costs. Uterine lavage along with Vetcotrim® bolus administration, is essential in the management of dystocia, especially if the foetus is dead and has stayed for many hours in the uterus or pelvic cavity. Clients are advised to seek professional intervention in time. Access to diagnostic tools like ultrasound can improve the assessment of fetal health and guide management decisions.

CONFLICT OF INTEREST

The author declares no competing interests regarding this publication.

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REFERENCES

Ahmed, A., Balarabe, A. T., Jibril, A., Sidi, S., Jimoh, A. A., & Gobe, R. M. (2017). Incidence and causes of dystocia in small ruminants in Sokoto Metropolis, Northwestern Nigeria. *Scholars Journal of Agriculture and Veterinary Sciences, 4*(3), 114–118.

Ahmed, T., Malik, A. A., Lone, F. A., Khatun, A., & Islam, R. (2015). Dystocia due to unilateral shoulder flexibility with downward deviation of head in ewe–A case report. *Theriogenology Insight, 5*(3), 199–201. [Crossref]

Balasopoulou, V., Zablotski, Y., Zerbe, H., & Voigt, K. (2022). Retrospective analysis of 302 ovine dystocia cases presented to a veterinary hospital with particular attention to uterine torsion. *Veterinary Medicine and Science, 8*(4), 1683–1693. [Crossref]

Bhattacharyya, H. K., Fazili, M. R., Bhat, F. A., & Buchoo, B. A. (2015). Prevalence and dystocia of sheep and goats: A study of 70 cases (2004–2011). *Journal of Advanced Veterinary Research, 5*(1), 14-20.

Brar, R. S., Sandhu, H. S., & Avtar, S. (2014). *Veterinary clinical diagnosis by laboratory methods*. Kalyani Publishers.

Bruce, M., Young, J. M., Masters, D. G., Refshauge, G., Thompson, A. N., Kenyon, P. R., Behrendt, R., Lockwood, A., Miller, D. W., & Jacobson, C. (2021). The impact of lamb and ewe mortality associated with dystocia on Australian and New Zealand sheep farms: A systematic review, meta-analysis and bio-economic model. *Preventive Veterinary Medicine*. [Crossref]

Caroline, J., Bruce, M., Kenyon, P. R., Lockwood, A., Miller, D., Refshauge, G., & Masters, D. G. (2020). A review of dystocia in sheep. *Small Ruminant Research*. [Crossref]

Cowley, J., Stockler, J., & Maxwell, H. (2023). A review of small ruminant cesarean section: Case selection, surgical techniques, care of the neonates, and postoperative care of the dam. *Clinical Theriogenology*. [Crossref]

Dutt, R., Rai, L. L., & Singh, G. (2018). Surgical management of dystocia in sheep–study of two cases. *International Journal of Science and Nature, 9*(3), 288–290.

Erhabor, O., Muhammad, H. A., Muhammad, K., Onwuchekwa, C., & Egenti, N. B. (2021). Interpretation of full blood count parameters in health and disease. *Haematology International Journal, 5*(1), 00180. [Crossref]

Esievo, K. A. N. (2017). *Veterinary clinical pathology*. Spectrum Book Limited.

Hiranya, K. B., Mujeeb-u-R., F., Fayaz, A. B., & Bashir, A. B. (2015). Prevalence of dystocia in sheep and goats: A study of 70 cases (2004–2011). *Journal of Advanced Veterinary and Animal Research, 5*(1), 14–20.

Ismail, Z. B. (2017). Dystocia in sheep and goats: Outcome and fertility following surgical and non-surgical management. *Macedonian Veterinary Review, 40*(1), 91–96. [Crossref]

Kabir, A. R. (2017). Parturition and neonatal care. In *Introductory theriogenology tutorials for undergraduates* (pp. 70–78). University Press PLC.

Mehta, V., Nagar, D., Yadav, R. C., Garg, N., & Purohit, G. N. (2002). Obstetrics problems in goats. *5th National Seminar on Indian Society for Sheep and Goat Production and Utilisation, December 30-31, Jaipur*, p. 151.

Pandey, A.K., Mir, M., Jaan, M.W., Sharad, K. & Sudhir, K. (2018). Management of Dystocia in Sheep—A Case Report. *International Journal of Current Microbiology and Applied Sciences, 7*(10), 1800-1803. [Crossref]

Phoebe, M. (2019). Lambing Part 2 Lambing Problems. NADIS. Retrieved from nadis.org.uk

Praveen, S., Arunkumar, R., & Elango, K. (2022). Correction of dystocia in a goat due to bilateral shoulder flexion of a dead emphysematous fetus. *The Pharma Innovation Journal*, 11(1), 1184-1185.

Purohit, G. N. (2006). Dystocia in the sheep and goat–A review. *Indian Journal of Small Ruminants, 12*(1), 1–12.

Purohit, G. N. (2022). Dystocia and its management in the sheep and goat. ResearchGate. Retrieved from researchgate.net

Talib, G. M. A. (2023). Retrospective studies on dystocia in ewes: Causes and treatment by caesarean section. *Assiut Veterinary Medical Journal, 69*(179), 186–195. [Crossref]

Tzora, A., Leontides, L. S., Amiridis, G. S., Manos, G., & Fthenakis, G. C. (2002). Bacteriological and epidemiological findings during examination of the uterine content of ewes with retention of fetal membranes. *Theriogenology, 57*(7), 1809–1817. [Crossref]

Voigt, K., Najm, N. A., Zablotski, Y., Rieger, A., Vassiliadis, P., Steckeler, P., Schabmeyer, S., Balasopoulou, V., & Zerbe, H. (2021). Factors associated with ewe and lamb survival, and subsequent reproductive performance of sheep undergoing emergency caesarean section. *Reproduction in Domestic Animals, 56*(1), 120–129. [Crossref]

Yakubu, A. S., Abubakar, A. A., Adamu, U., Kabir, I., Idris, B. I., Buhari, S., Oviawe, E. I., Bodinga, H., & Abubakar, N. (2020). Management of dystocia due to faulty foetal disposition complicated with vaginal prolapse in a 2-year-old Yankasa ewe. *Journal of Animal Science and Veterinary Medicine, 5*(2), 56–61. [Crossref]

Zuhair, B. I. (2017). Dystocia in sheep and goats: Outcome and fertility following surgical and non-surgical management. *Macedonian Veterinary Review, 40*(1), 1–6. [Crossref]