Case Report

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Dystocia Due to a Dicephalic Monstrosity of a Conjoined Twins in a Sahel Breed Doe Goat

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ABSTRACT

A female Sahelian goat was presented to the State Veterinary Clinic in Damaturu, Yobe State, Nigeria, with a complaint of prolonged and exhaustive straining lasting nine hours. The doe had a history of assisted deliveries and was confirmed to be in a full-term pregnancy. Upon clinical examination, vaginal palpation revealed a fully dilated cervix with a malpresentation of fetal parts (hind limbs of one fetus and a lateral head deviation in the other). Fetal reflexes indicated live fetuses. A cesarean section was performed, resulting in the delivery of three male kids—one normal and a conjoined dicephalic monster.

Introduction

The incidence of dystocia is low in doe goats compared to ewes and large ruminants (Ali et al., 2023; Peter et al., 2014; Waziri et al., 2007). Generally, fetal dystocia is primarily attributed to fetal oversize, abnormal disposition, or congenital deformities (Engum and Lyngset, 1970). Many monsters and/or congenital anomalies recognized before birth, at birth, or much later affecting different species are widely described in the literature (Corbera et al., 2025). Dicephalus, a congenital defect characterized by conjoined twins with two heads, results from incomplete separation of the head and neck regions, which merge at the shoulder. This condition often leads to dystocia because the divergence of the two necks obstructs normal entry into the birth canal (Peter, 2004). Conjoined twins and embryonic duplication are a progressive series of malformations, ranging from partial duplication of part of the body to almost total formation of two individuals (Ali et al., 2013). These abnormalities arise mainly from a single ovum resulting from incomplete separation of the embryonic axis at a later phase of development (Akhter et al., 2023). A dicephalic malformed newborn goat has been reported to have been delivered by cesarean section (Noakes et al., 2001). However, removal of one head by fetotomy followed by vaginal delivery of the rest of the fetus is also a practically feasible technique to resolve the dystocia when dealing with dead fetuses.

Case history

A female Sahelian doe breed was presented to the State Veterinary Clinic, Damaturu, Yobe State, Nigeria, with a complaint of prolonged and exhaustive straining by the goat, which was noticed for the past 9 hours. The doe is a pluriparous with a previous history of assisted delivery and was said to have bred naturally and had a full-term pregnancy.

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Clinical observation

Upon obstetrical examination (via vaginal palpation), there was a completely dilated cervix with the presence of fetal malpresentation (fetal hind limbs) protruding through the vulva by one of the three-plate fetuses, a hanging fetal membrane (Fig. 1), and fetal malposture (a laterally deviated head) by the other, with one head presenting into the cervix. Fetal parts from both fetuses were presented at the birth canal. Palpation of the fetus revealed the presence of reflexes suggestive of live fetuses. Packed cell volume was 24%, temperature was 37.9°C, respiratory rate was 25 cycles/min, and pulse rate was 82 beats per minute.

Fig. 1: Animal during clinical observation; (yellow arrow) indicating presence of fetal parts (hoofs) and a hanging membrane (blue arrow).

Result and discussion

Per vaginam delivery was unsuccessful; therefore, a caesarean section was performed, resulting in the delivery of three male kids—one normal and one conjoined dicephalic fetus. The doe was positioned in left lateral recumbency, and the right paralumbar fossa was shaved, disinfected, and aseptically prepared for caesarean section (CS; Fig. 2). Local anesthesia was achieved at the proposed incision site using a line infiltration of 2% lignocaine hydrochloride. A routine right ventrolateral laparotomy was performed to access the uterus. Following uterine incision and exteriorization (Fig. 3), the fetuses were delivered from both uterine horns, and the uterine lumen was lavaged with 200 ml of metronidazole solution. Closure of the uterus, peritoneum, and muscle layers was carried out sequentially using chromic catgut-1 in a continuous interlocking suture pattern, while the skin was closed with silk-1 in a simple interrupted pattern, as described by Vandeplassche (1981).

Postoperative management included intramuscular administration of penicillin–dihydrostreptomycin at a dose of 1 ml/25 kg for 5 days, oxytocin (20 IU, I.M., single dose), diclofenac sodium (2.5%) at 25 mg/kg I.M. for 4 days, daily wound dressing, and topical application of oxytetracycline spray to the suture line for 5 days.

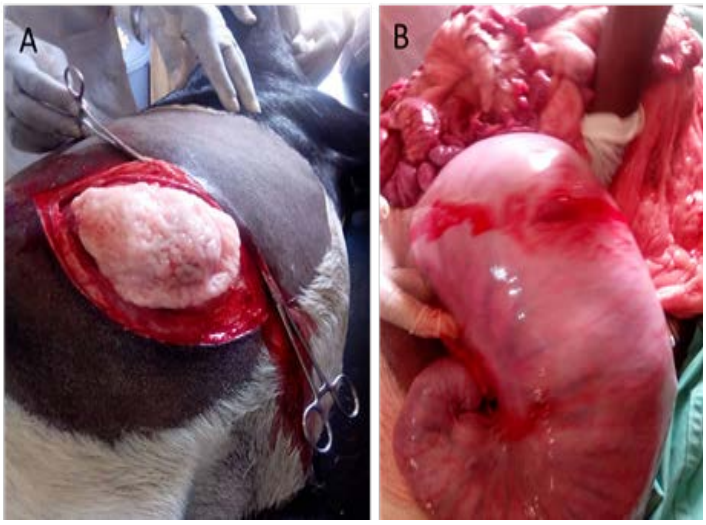

Fig. 2: (A) Laparotomy through the right paralumbar fossa, (B) exterioration of gravid uterus and incision on less vascularize area of the uterus

Fig. 3: (A) The delivered dicephalic monstrous fetus, (B) twin fetuses; yellow arrow showing the normal fetus forelimbs and the blue arrow indicating the dicephalic monster, (C) The point of divergence at the cranial part of the neck (green arrow) and Cleft pallet (blue arrow).

Delayed intervention in cases of dystocia markedly increases the risk of loss of both the fetus and the dam. Prolonged dystocia in does frequently predisposes to necrotic metritis, a condition that is often fatal. Abnormal fetal posture and concurrent presentation defects commonly exacerbate dystocia arising from fetal malposition (Noakes et al., 2001). Although fetal monsters are rare, they may constitute a

significant cause of dystocia (Sethi et al., 2025). Accurate identification of fetal monstrosities is essential, as such conditions are often difficult to manage vaginally and typically necessitate delivery by caesarean section. This was evident in the present case, in which a dicephalic fetal monster rendered vaginal delivery impossible. At the State Veterinary Clinic, Damaturu, Nigeria, dystocia accounts for approximately 15.1% of all reproductive cases, with a higher incidence reported in ewes than in does among small ruminants (Ali et al., 2023). This condition poses a substantial challenge to livestock production, contributing to fetal losses, maternal injury or illness, delayed return to estrus, and prolonged kidding intervals.

Conjoined twinning may result from multiple etiological factors, including genetic influences, teratogenic agents, pharmaceuticals, infectious organisms, toxins, radiation, and adverse environmental conditions. These factors are believed to interfere with normal embryonic division, leading to failure of twin separation after the 13th day post-fertilization (Acharya et al., 2019; Rai et al., 2018). Such congenital anomalies are generally nonviable and often remain undetected until parturition is complicated (Roberts, 2004).

In the present case, the congenital anomaly was characterized by the fusion of two heads (dicephalic) on a single neck (monauchenos). The heads were nearly equal in size and joined at an angle of approximately 45°, with each displaying typical craniofacial features, including cloudy and opaque eyes. Post-mortem examination revealed that the neck, thorax, abdomen, and limbs were grossly normal, and all visceral organs—including the lungs, heart, liver, kidneys, and genitalia—were consistent with those of a single fetus. Notable findings included proximal divergence of the neck and the presence of cleft palate in both heads.

Remark

The dicephalic fetal monster died 3 days post intervention, possibly due to malnutrition because of the opacity of the eyes, which prevented them from suckling. The CS wound on the dam has healed without any postoperative complication, while the other single kid is doing very well and lactating.

Conclusion

This case highlights the complexities associated with managing dystocia due to congenital fetal anomalies, particularly conjoined twins (dicephalic monsters), in small ruminants. Timely and appropriate surgical intervention, such as cesarean section, was essential to ensure the survival of the dam and one healthy kid. However, the dicephalic fetal monster, likely due to malnutrition caused by the opacity of its eyes, which prevented suckling, did not survive post-surgery. The occurrence of fetal malformations like dicephalus remains a rare yet significant cause of dystocia in livestock, and early recognition of such conditions is crucial for timely intervention.

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Conflict of interest

The authors declare no conflict of interest.

References

Acharya C, Kalita KM, Mahanta N, Chhetri B, Barma U. Dysocia due to a dicephalus monster fetus in Holstein Friesian cow. Int J Current Microbiol Studies, 2019; 8(4): 4-7. doi: https://doi.org/10.20546/ijcmas.2019.804.348

Akhter R, Rangasamy S, Mohammed AY, Sarath T, Sureshkumar R, Krishnakumar K. Dicephalus thoracopagus tetrapus twin foetal monster and its pervaginal delivery in Pattanam breed ewe at field level. Vet Practitioner, 2023; 24(1): 153-155.

Ali LM, Sahar HN, Mohammad TS. Case report of a congenital (dicephalus) in a lamb. Global Veterinaria, 2013; 10(1): 90-92. doi: Doi: 10.5829/idosi.gv.2013.10.1.71180

Ali RI, Asuku SO, Abba A, Adamu AI, Alkali IM, Ali A. Retrospective survey of cases of reproductive diseases and disorders in animals presented for veterinary care at the Senator Ali Sheriff Veterinary Hospital, Maiduguri and State Veterinary Clinic Damaturu, Nigeria from 2010 to 2022. J Vet Applied Scie, 2023; 13(2): 300 - 311.

Corbera JA, Arencibia A, Morales I, Gutierrez C. Congenital duplication of the caudal region (monocephalus dipygus) in a kid goat. Anatomia Histologia Embryologia, 2025; 34(1): 61 - 63.

Engum J, Lyngset O. Gynaecology and obstetrics in the goat. Veterinary, 1970; 120: 120-124.

Noakes DE, Parkinson JT, Garry CWE. the female animal. In D. E. Noakes, J. T. Parkinson & C. W. E. Garry (Eds.), Textbook of Veterinary Reproduction and Obstetrics (Eight ed.), 2001; pp. 313-317, China: Elsevier.

Peter GGJ. (Ed.). Handbook of veterinary obstetrics; dyatocia in doe goat, chapter 7 (Second ed.). 2004; China: Elsivier Limited.

Peter ID, Michelia GD, Bukar MM, Maina VA, Biu AA. Retrospective studies of reproductive disorders of small ruminant in Maiduguri, Nigeria j Agri Vet Sci, 2014; 6(2): 51-58.

Rai M, Mishra A, Sheikh AA. Management of dystocia due to double headed monster in a crossbred cow. Int J Chemical Studies, 2018; 6(4: 313-314.

Roberts SJ. (Ed.). Veterinary Obstetrics and Genital Diseases (Theriogenology), 2004; India: CBS publishers.

Sethi M, Shah N, Yadev KD, Meena M, Kumar N. Rare case of dicephalus monster in a jersey crossbred heifer. Int J Vet Sci Anim Husbandary, 2025;10(7):243-244. doi: https://www.doi.org/10.22271/veterinary.2025.v10.i7d2411

Vandeplassche M. Embryotomy and caesarotomy FW Oehme & JE. Prince (Eds.), The Textbook of Large Animal Surgery, 1981: pp. 521-539.

Waziri MA, Adamu A, Bukar MM. Analysis of reproductive cases handled at the state veterinary clinic Maiduguri, Nigeria (1993-2005). Nigeria Vet J, 2007; 27(2): 54-59.