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Successful management of dystocia due to fetal Anasarca in a Mecheri Ewe: A case report

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Abstract

A full term Mecheri ewe, aged 2 years and weighing approximately 30kg, was brought to attention due to an inability to deliver the fetus. The ewe had persistent straining, restlessness, and anorexia. Upon vaginal examination, fetal limbs and the head were palpable in the anterior vagina. Further examination of the fetus revealed extensive subcutaneous edema throughout the body, indicating fetal anasarca. As the fetus failed to come out via simple traction, a total fetotomy was performed to remove fetus from the uterus through the birth canal. Subsequently, the placenta was manually removed. The ewe recovered without any complications.

Keywords: Fetal Anasarca, Mecheri ewe, dystocia, fetotomy

Introduction

Dystocia was a common issue in sheep and could lead to increased mortality among newborn lambs and dams, adversely affecting farm revenue and animal welfare (Balasopoulou *et al.*, 2022) [2]. Fetal factors that contributed to dystocia included fetal malpositioning, fetal oversize, or feto-maternal disproportion. Maternal factors contributing to dystocia were uterine inertia, uterine torsion and obstruction of the birth canal. Among these, fetal maldisposition, especially lateral deviation of the head and incomplete cervical dilatation were the most common causes of dystocia in sheep (Purohit, 2006) [7]. Fetal oversize could result from different dropsical conditions of the fetus, such as fetal anasarca, ascites, edema of the allantochorion, hydrops of the amnion, or both (Roberts, 1971) [9]. While fetal anasarca, characterized by generalized edema of the subcutaneous tissue of the fetus, could occur alone, it was occasionally observed in sheep and goats but more commonly in cattle (Roberts, 1986) [10]. The following is a case study that illustrates dystocia due to fetal anasarca and its successful management through fetotomy in a Mecheri ewe.

Case History and Observation

A two year old pregnant Macheri ewe at full term was observed in a farmer's residence in Erumapatti village, Namakkal district. The ewe had been straining for 12 hours and was struggling to deliver the fetus. Additionally, the allantochorion had ruptured 4 hours prior. Despite these difficulties, the ewe remained active and alert. Upon vaginal examination, following lubrication with liquid paraffin, the cervix was fully dilated and the fetus was in anterior longitudinal presentation with a swollen head extended in the birth canal.

Diagnosis and Treatment

During the fetal examination, there was significant subcutaneous edema of the entire body revealing fetal anasarca. Attempts to remove the fetus via forced traction were unsuccessful in facilitating the fetus's delivery due to the oversized fetus. Thus, a complete fetotomy was performed using a specialized embryotomy knife which involved separating the fetal head from its body and disconnecting the hind quadrant from the trunk. Ultimately, the cut parts were manually removed by forced traction. The fetus was dead and hairless with swollen with fluid in head, neck, abdomen and subcutaneous tissues (Fig 1).

The foetal membranes were manually separated from uterus which were thin and oedematous. After the successful delivery of the fetus, the dam received treatment, including an intramuscular injection of 150 mg Enrofloxacin, intravenous administration of 250 ml of 5% Dextrose in normal saline and an intramuscular injection of 15 mg of Meloxicam for three consecutive days. Additionally, a tetanus toxoid injection was administered intramuscularly immediately after the fetal delivery. The dam had a smooth recovery without any complications.

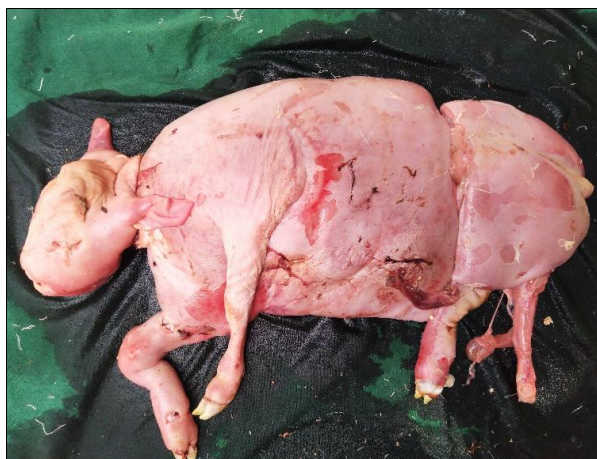


Fig 1: Anasarca fetus relieved by total fetotomy

Discussion

Fetal anasarca, a dropsical condition characterized by excessive generalized subcutaneous edema in the fetus, is primarily attributed to a simple autosomal recessive gene (Roberts, 1971) [9]. This condition often results from factors such as dropsy of fetal membranes, obstructed lymphatics, or electrolyte imbalances (Arthur *et al.*, 2001) [1]. Fetal anasarca can occur in both single and twin pregnancies and is occasionally observed in lambs, kids, and foals. However, it is more commonly found in calves (Craig, 2000) [3]. Fetal anasarca in sheep has been documented by Hailat *et al.* 1997; Monteagudo *et al.*, 2002; Selvaraju *et al.* 2008; Tamizharasan *et al.* 2008 Ramachandriah *et al.* 2015 [5, 6, 11, 13, 8]. In majority of cases, anasarca fetuses are non-viable, presenting as soft, friable, edematous, and too large for normal vaginal delivery, often requiring interventions like forced extraction, fetotomy, or evisceration (Roberts, 1971) [9]. In the present case, anasarca fetus was removed by complete fetotomy. In milder cases, traction with possible multiple incisions over the oedematous tissues whereas in cases of severe fetal anasarca associated with conditions like ascites, extreme fetal oversize or concurrent abnormalities such as achondroplasia, caesarean section is recommended (Sloss and Duffy, 1980; Dewry *et al.*, 2019) [12, 4]. If fetal anasarca is diagnosed before parturition through ultrasonography, termination of pregnancy is indicated.

Summary

In summary, fetal anasarca causing dystocia is rare in sheep. Successful management options include forced extraction, fetotomy, or caesarean section, chosen based on the fetal size and the severity of the condition. Timely veterinary diagnosis and intervention are crucial for preserving the lives of both the ewe and the fetus.

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