

Case Study

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## Successful Obstetrical Management of Foetal Anasarca in a Doe: A Case Report

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### ABSTRACT

Foetal anasarca is a rare clinical condition characterized by excessive accumulation of fluid in the subcutaneous tissue of foetus, resulting in dystocia. The present case details the successful retrieval of anasarca's foetus along with live foetus through an obstetrical intervention. A 3 year old pregnant doe of 2<sup>nd</sup> parity was presented to Veterinary Clinical Complex (VCC) Rajendranagar with the history of dystocia. Kidding was initiated 12 hours back with the rupture of water bag, animal was in recumbent position. On clinical examination mucous membrane of dam were pale with pyrexia (104.5°F) and sunken eyes. Per vaginal examination revealed a foetus in posterior longitudinal presentation, breech, which on palpation appeared oedematous with a distended abdomen. The doe was stabilised using fluid therapy prior to obstetrical intervention. The doe was obstetrically managed by traction of foetus ensuring lubrication. After the adjustment of extremities through forced extraction two foetus were relieved of which one was anasarca foetus. The uterus was administered with warm normal saline, intrauterine bolus and tocolytics were also administered Intramuscularly. A course of Antibiotics and Anti-inflammatory drugs were advised along with the fluid therapy. The animal recovered successfully with normal vitals along with the live foetus.

#### Keywords

Breech posture,  
Doe,  
Foetotomy, Forced  
extraction,  
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### Introduction

Fetal anasarca is a generalized edematous condition of the fetal body which is possibly due to the lethal genetic effect. It may develop in single fetus or one of the twins.

It is caused due to recessive autosomal character. It is more common in cattle, but occasionally seen in doe and rams. The abnormal enlargement of fetus will effect the

doe and foetus during parturition. Previous reports about the dystocia due to foetal anasarca in goats described about various approaches including foetotomy and caesarean section depending on the size of foetus.

The present case report is about the successful management of foetal anasarca with timely intervention and appropriate obstetrical manipulation to achieve a favorable outcome

## Case Presentation

The three year old pregnant doe weighing about 40 kgs of second parity was presented to VCC Rajendranagar, with history of persistent abdominal straining and signs of Parturition started 12 hours back with the rupture of water bag, Recumbent position and vaginal discharge, which raised suspicion of dystocia. The owner immediately brought the animal to the clinic.

On clinical examination the doe showed the pyrexia (104.5°F), pale mucous membrane and sunken eyes indicating the dehydration. The skin tending test (STT) was greater than 5 sec. upon the per vaginal examination the cervix was fully dilated and foetus was palpable in posterior longitudinal presentation with breech condition. The foetus appeared to be large and oedematous with fluid accumulation beneath the skin.

## Treatment

As the animal was emaciated, initially stabilization of animal was performed using fluid therapy along with the non-steroidal anti-inflammatory drugs to address pain and pyrexia. After that stabilization, the animal was restrained. The proper lubrication was applied to birth canal and obstetrical manipulation was performed to correct the posture of foetus. In a breech presentation, the

foetus's rear limbs are fully extended underneath its body. By grasping the cranial aspect of the tibia with the hand, the foetal hind limbs were gradually brought back into a hock-flexed posture as the foetal hind quarters were repelled forward and upward creating the room for the distended abdomen to pass. By proper adjustment of foetal body and with use of snares, the whole fetal body was delivered through traction. Fetal body was edematous filled with serous fluid.

After relieving the anasarca fetus then per vaginally the other fetus was also palpable. The fetus was in anterior presentation in dorso-sacrum position. Then the second fetus was also delivered through the gentle traction. The fetus was alive and active with normal respiration rate and normal pulse rate. Umbilicus of fetus was cleaned with the tincture iodine.

The foetal membranes were removed manually, and uterus was flushed with the warm normal saline. Furea bolus was also inserted in the uterus to prevent secondary infections. After the relieving of the fetus the treatment was given by using Inj Enrofloxacin – 5mg/kg for 5 days, Inj Meloxicam – 0.5mg/kg for 5 days. Suspensions such as Exapar was also suggested to the dam. Fluid therapy was also administered. After the post-operative therapy animal was active along with the normal vitals and fetus was also healthy

**Fig.1 Doe with the history of foetal anasarca**



**Fig.2 Anasarcus foetus**



**Fig.3** Anasarcus foetus head



**Fig.4** Placental membranes



**Fig.5** Live foetus



### Case Discussion

The Fetal Anasarca is clinical condition which is generally seen in cow but it is occasionally seen in doe which occurs due to accumulation of edematous fluid in the fetal body.

The fluid accumulation in subcutaneous space might be due to lack of lymph nodes and existence of autosomal recessive allele which affect the embryological development of normal lymph nodes (Chandrasekaran *et al.*, 2015). Baruti *et al.*, (2018) reported dystocia caused by foetal anasarca in assam hill goat where the foetus was excessively enlarged due to fluid accumulation leading to difficult in parturition.

Similarly, Borakhatariya *et al.*, (2017) described a case of breech presented foetal anasarca in a marwari doe which required obstetrical intervention for delivery. Manjusha *et al.*, (2023) described a case of foetal anasarca in doe carrying twin foetuses where appropriate obstetrical manipulation enabled successful delivery of the foetuses. Management of dystocia caused by foetal anasarca depends on the size of the foetus and accessibility of foetus within the birth canal. Different approaches have been described including mutation, fetotomy and caesarean section depending on the size of foetus and condition of the dam (Roberts, 1986; Noakes *et al.*, 2019). Possible treatment for these condition includes Mutation, Foetotomy or C section. If the foetus

is too large and unable to be extracted then foetotomy can be opted in which foetal parts are separated using foetotome. In severe or prolonged dystocia in multipara, caesarean section or hysterectomy may be indicated. In the present case the fetus is in the reach and easily palpable though it was edematous, size of fetus was moderately large. So fetus could be relieved through the forced extraction and successfully delivered the live fetus also.

In the present case the fetus is in the reach and easily palpable though it was edematous, size of fetus was moderately large. So careful stabilization followed by the manual manipulation and forced extraction enabled successful removal of anasarca foetus and a live foetus without need of foetotomy or c-section. Proper antibiotic treatment, uterine flushing and supportive therapy helped in rapid recovery of the doe.

### Author Contributions

V. Pranay Vishal: Investigation, formal analysis, writing—original draft. K. Vaibhavi: Validation, methodology, writing—reviewing. M. Neehar:—Formal analysis, writing—review and editing. K. Ramchandra Reddy: Investigation, writing—reviewing. K. Murali Mohan: Resources, investigation writing—reviewing. G. Aruna Kumari: Validation, formal analysis, writing—reviewing.

### Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

### Declarations

**Ethical Approval** Not applicable.

**Consent to Participate** Not applicable.

**Consent to Publish** Not applicable.

**Conflict of Interest** The authors declare no competing interests.

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