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Management of dystocia due to nape presentation in primipara black Bengal doe with obstetrical instruments

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Abstract
This article describes a case of dystocia in a primiparous doe that was treated with a percutaneous fetotomy. The cause of dystocia can be fetal or maternal in origin and it can result in significant economic losses for farmers. Successful treatment of dystocia requires correctly diagnosing its causes and treatment techniques. If the fetus is dead and mutation is not possible, Fetotomy is a better option than cesarean section due to fewer post-operative complications.

Keywords: Dystocia, nape presentation, fetotomy, obstetrical instruments

1. Introduction
Difficulties during birth, also known as dystocia, can be a serious issue for both kids and dams and can even result in mortality (Aziz DM *et al.*, 1996; Brounts *et al.*, 2004) [2, 3]. Although obstetrical challenges in goats are similar to those in sheeps (Majeed AF., 1989) [5], they tend to experience dystocia more frequently than ewes (Venkata Sai Kumar P *et al.*, 2023) [12] with reported incidences of around 7% (Abdul-Rahman LY *et al.*, 2000) [1]. Fetal causes of dystocia make up 44.44% of cases, with the lateral deviation of the head and neck being a common cause in anterior presentation dystocia across all species (Noakes *et al.*, 2001; Roberts, 1971) [8, 10]. Maternal factors such as overfeeding during pregnancy, uterine inertia, and a small pelvic canal can also contribute to dystocia (Pugh *et al.*, 2012) [9]. Accurately identifying lambing and kidding difficulties is crucial for veterinary personnel in properly treating dystocia. The following report details a case of dystocia caused by an extreme downward fetal head and neck deviation. The authors want to acknowledge that the proper techniques to relieve the dystocia by the use of different obstetrical instruments is 1st reported in this case with accompanying figures.

2. Case History
A 14.5 kg primiparous doe presented to TVCC, CVSc & AH, R K Nagar with dystocia. The doe was found in lateral recumbency with a subnormal temperature of 98.4°F. Only the forelimbs of the fetus were visible externally and the doe's vulva was swollen due to the extensive traction of fetal limbs by the owner (Figure 1). Vaginal palpation revealed a partially open cervix and the f head of the fetus was deviated downward towards the abdomen. There was no lubrication in the birth canal and no fetal movement, indicating fetal death.

3. Treatment and Discussion
The case was diagnosed at nape presentation based on the findings and vaginal examination. To alleviate pain and straining, 2% lignocaine hydrochloride (1 ml) was used as epidural anaesthesia at the sacrococcygeal region. As the birth canal was dry, approximately 50 ml of heavy liquid paraffin was used to properly lubricate the birth canal with the help of a 10 ml disposable syringe.

Following that, repulsion was tried to force back the fetus into the uterine cavity for correction of the fetal posture. However, due to the large fetal size and small birth canal, repulsion was not possible, which makes the correction of the fetal posture impossible. Therefore, a percutaneous fetotomy of the fetus was performed to relieve the dystocia. With the help of Thygesen's double barrel fetotome and a wire saw, cut was performed at the base of the neck for amputation of the head along with the neck (figure 2). The fetal head was then removed from the birth canal by traction with the help of Krey's Schottler Obstetric Hook after fixing it to the free joints of the cervical vertebrae (figure 3). Following that, traction was applied to both forelimbs and the remaining fetal body was released from the uterus (figure 4).

Fig 1: The extensive traction of fetal limbs by the owner

Fig 2: The neck for amputation of the head along with the neck

Fig 3: The fetal head was then removed from the birth canal by traction with the help of Krey's Schottler Obstetric Hook after fixing it to the free joints of the cervical vertebrae

Fig 4: Traction was applied to both forelimbs and the remaining fetal body was released from the uterus

Post-operative treatment included Inj. Calborol -50 ml intravenously (I/V) (Containing Calcium Borogluconate I.P) (Company name- Elanco); Inj. Dextrose Normal Saline (5%) - 100 ml I/V; Inj. Melonex -0.7 ml intramuscularly (I/M) (Containing Meloxicam 5mg/ml) (Company name- Intas Pharmaceuticals Ltd.); Inj. Dexona vet – 1.5 ml I/M (Containing Dexamethasone Sodium- 4mg/ml) (Company name- Zydus Cadila) and a course of antibiotic Inj. Intacef - 10 mg/kg body weight I/M (containing Ceftriaxone) (Company name Intas Pharmaceuticals Ltd) for 5 days. One number of Furex bolus (Containing Nitrofurazone – IP 60 mg & Urea IP – 6 gm) (Company name- Vetsfarma Ltd) was placed intrauterine to hasten the involution of the uterus and control the infection. The doe showed an uneventful recovery without further complications.

Dystocia is a common condition in small ruminants such as sheep and goats. It can result in significant economic losses for farmers due to the death of newborns or dams or adversely affecting the fertility of the dams (Mcsporran KD, 1980) [6]. Dystocia is more prevalent in first-time mothers (17%) than in those who have given birth multiple times (4%) (Nix JM *et al*., 1998) [7]. The causes of dystocia can be either fetal or maternal in origin. Several factors including dystocia, can lead to a decrease in the goat population, resulting from the death of fetuses and dams, and are detrimental to their reproductive performance (Abdul-Rahman LY *et al*., 2000) [1]. Successful treatment of dystocia requires correctly diagnosing its causes and when it started (Aziz DM *et al*., 1996) [2]. Treatment techniques include manual treatment and traction, fetotomy, hormonal, and cesarean sections (Taha MB *et al*., 2005) [11]. If the fetus is dead and mutation is not possible, Fetotomy is a better option than cesarean section due to fewer post-operative complications (Kumar P *et al*., 2020) [4].

4. Conclusion

In this case, dystocia was relieved through the fetotomy method, using instruments such as the Thygesen's double barrel fetotome and the Krey's Schottler Obstetric Hook correctly. This approach was chosen over a cesarean section, which would have been more expensive. Furthermore, the prognosis is generally good with fetotomy than with cesarean

section, particularly if the fetus has already died.

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