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# A CASE OF DYSTOCIA IN A MULTIPARA WEST AFRICAN DWARF DOE

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***ABSTRACT***

***A four-year-old West African Dwarf (WAD) doe weighing 27 kg was brought to the Veterinary Teaching Hospital, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria with the primary complaint of difficult parturition. From history, the patient had been in labour for 48 hours before presentation to the hospital. Physical examination of the doe revealed the protruding head of a dead foetus from the vulva without the forelimbs, indicating postural defect. The doe also had swollen vulva, engorged mammary glands, shivering hindquarters, intermittent straining, and bruxism. Clinical parameters of the doe showed a temperature of 40 °C, respiratory rate of 42 cycles/minutes and heart rate of 114 beats/minutes. Based on the physical findings, and the duration of labour, a diagnosis of dystocia was established. All attempts to deliver the dead foetus by forceful extraction failed necessitating the resort to surgical intervention involving both operative and manipulative procedures. Retropulsion of the foetal head was equally very difficult and for this reason, the foetal head was amputated with a Gigli wire outside the vulva at the atlanto-occipital joint. The foetus was then delivered by a caesarean section. Post operative drug treatment given to the patient included antibiotics (procaine penicillin 20,000 IU/kg i/m; streptomycin 10mg/kg i/m); haematinics (iron dextran 2ml i/m; B complex vitamins 2ml i/m) and topical antibacterial spray on the surgical wound. Post operative care continued for five days before the doe was discharged. Skin sutures were removed ten days post surgery. It was concluded that the postural defect due to bilateral shoulder flexion coupled with the gross oversize of the foetus culminated in an unsuccessful vaginal delivery and eventual death of the foetus.***

***Keywords*:** WAD Doe, Multipara, Dystocia, Uterine rupture, Laparohysterotomy

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## INTRODUCTION

Dystocia refers to difficult parturition to the point of needing human intervention [1]. It implies a situation whereby the foetus(es) cannot be delivered by maternal effort alone. Among all domestic animal species,



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the incidence of difficult birth is highest in the dairy cow; the ewe, especially with twinning; the mare and the sow while difficult delivery is more common in primigravida than multigravida [2].

The cause of difficulty in parturition is multi-factorial and could be maternal when the essential cause lies with the dam or foetal when the young is responsible. Maternal dystocia is due to some conditions associated with the dam and include inherited small diameter pelvic canal, immature dam, occurrence of multiple births, ring womb, (i.e. incomplete dilation of cervix) and dysfunction of parturition process like uterine inertia, uterine rupture and ectopic pregnancies. Foetal causes of dystocia include male fetuses compared to females, faulty foetal disposition (including presentation, position and posture), inherited large foetal size, malformations due to *Schistosoma reflexus* and *Perosomus elumbis*, and such other developmental defects as monstrosities [1,3,4,5,6,7,8]. Foetal irregularities are a common cause of dystocia in domestic species. In the foal, calf and lamb the relative length of the limbs is a frequent cause of obstructive dystocia, whereas in the piglet, puppy and kitten, the limbs are of less significance [2].

The economic significance of interrupted parturition in bovine and ovine foetal losses due to dystocia cannot be over-emphasized and is well documented [2,6,9,10]. Dystocia results in decreased calf and lamb crop yields, early culling, and increased expenses on surgical and drug treatment [11]. Although the incidence of dystocia is well documented in many domestic animals [12,13,14, 15], it is poorly documented in animals of the WAD breed. However, dystocia is thought to be generally lower in the WAD doe than the WAD ewe [3,16,17]. Case history and physical findings can be used to diagnose dystocia but additional information on foetal position, presentation and postures, and foetal viability are usually obtainable by ultrasound scan [18]. In the doe, especially of the WAD breed, the best treatment option is hysterotomy (caesarean section) because caprine birth canal is small-sized making the application of traction or foetotomy very difficult and injurious to the vulva [3,13,19,20]. In this paper, we present a case of dystocia in a multipara WAD doe presented to the Veterinary Teaching Hospital, Micheal Okpara University of Agriculture, Umudike, Abia State, Nigeria.

**CASE HISTORY**

A four-year-old WAD doe weighing 27kg was presented to the Veterinary Teaching Hospital, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria with the primary complaint of interrupted delivery. History revealed that the patient went into labour about 48 hours before presentation. The doe had three previous successful parturitions: two twins and a triplet birth. The kids were vaginally delivered and all of them survived. The doe was housed together with another goat and a sheep. The client also revealed that the animals were often fed with fresh cassava peels.

Evaluation of the vital parameters showed that the temperature was 40$^{o}$C, the respiratory rate was 42 cycles/minute, and the heart rate was 114 beats/minute. Physical findings included a protruding head of an oedematous but dead foetus (Fig. 1), swollen vulva, intermittent straining, bruxism (gnashing, grinding and clenching of teeth), engorged mammae, and shivering hindquarters. The foetus was anteriorly presented and dorsally positioned. Based on the history, clinical findings and the duration of these signs, a diagnosis of dystocia was made. Laparo-hysterotomy was resorted to when all effort to deliver the foetus by manipulative procedures failed.

**SURGICAL INTERVENTION**

The foetal head was amputated outside the vulva before the surgery as it was so large that it could not be returned back into the uterus for delivery by Caesarean section. This was done by disarticulating the occipito-atlantal joint with a Gigli wire. The hysterotomy (Figs. 2 and 3) was carried out as described by Gyang [5]. The foetus was a male, dorsally positioned, anteriorly mal-presented, and poorly postured with complete retention of the forelimbs (bilateral shoulder flexion). The foetus was also grossly oversized (Fig. 4) while the uterus was appreciably ruptured (Fig. 3).

Post operative medical treatment given to the patient included intramuscular administration of procaine penicillin 20,000 IU/kg; streptomycin 10mg/kg; B-complex vitamins 2ml and Iron dextran 2ml. An antibacterial spray (Charmil ®) was applied topically at the surgical wound after abdominal closure. The patient was hospitalized, routinely treated and monitored daily for five days, and then the doe was discharged. Skin sutures were removed ten days post-surgery.

Fig.1. Perineal region of the doe showing the dead foetal head before surgery

Fig.2. Exploring the uterus during surgery

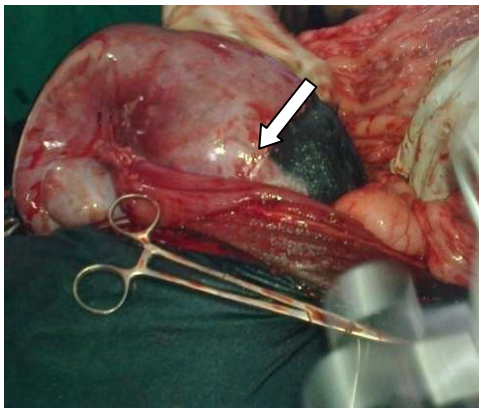

Fig.3. Uterine horn showing the ruptured part (arrow)

Fig.4. The extracted dead male foetus

Fig.5. Closure of laparo-hysterotomy incision

Fig.6. The doe 30 minutes after surgery

## DISCUSSION

The foetus was properly positioned and presented but wrongly postured and appeared grossly oversized The bilateral shoulder flexion by the foetus, a postural defect may have acted as a wedge simulating foetal oversize and thus obstructive dystocia. Maternal effort alone was therefore inadequate to achieve successful parturition. It is known that in the second stage of labour the dam makes the greatest expulsive effort during the passage of the foetal head, chest or thorax and hips. In the present case, the head had gone through but the chest or thorax could not because of the bilateral shoulder flexion which increased the diameter of the thorax, thus acting as a wedge. It is therefore possible that foetal oversize was not the major cause of the dystocia since this was a multipara doe that had previously kidded twins and triplets successfully.

Foetal irregularities such as mal-posture, improper presentation, monstrosity and mummification as causes of dystocia in the WAD doe have previously been reported in this [13,21,22] and other breeds and species of domestic animals [3,4,7,17]. The uterine rupture observed in this case is a defect usually associated with uterine torsion, gross uterine distension due to twins in one horn, with hydrallantois in cows, or with excessive foetal oversize [2]. In this case, there was no torsion of the uterus. Therefore, the bilateral shoulder flexion simulating gross foetal oversize coupled with a prolonged period of unproductive uterine contraction and straining were probably responsible for the uterine rupture. These foetal anomalies culminated in an unsuccessful vaginal delivery and eventual death of the foetus. The foetal death probably could have been averted had the case been presented early to the hospital for intervention.

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