

Case Report

Management of dystocia due to postural defect (carpal flexion) in Holstein Friesian cross breed cow- A case report

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ABSTRACT

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Dystocia or difficulty in parturition in a cow may need veterinary assistance for the successful parturition. Among different types of fetal origin carpal flexion most frequent one. An adult Holstein Friesian crossbreed cow weighing 250 kg in its third parity was attended at doorstep by the doctor's team of SAQ Teaching Veterinary Hospital, Chattogram Veterinary and Animal Science University (CVASU), Chattogram with the history of complete gestation and rupture of amnioticsac. General clinical examination revealed that the cow was depressed with normal body temperature and tachycardia. By per vaginal examination of fetal condition, it was diagnosed as dystocia due to carpal flexion. Fetotomy followed by mutation and traction was performed to expel out the dead fetus and to save the dam. The cow recovered successfully without any complication though the calf was dead as it was delayed in managing the case.

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1. INTRODUCTION

Steady evolution, domestication and breeding programme (e.g. cross-breeding) have resulted in increased incidence of dystocia in dairy cattle due to relatively oversized fetus to its dam, as compared to other mammals (McClintock, 2004). Dystocia is considered as one of the most important obstetrical and painful condition in cattle (Huxley and Whay, 2006) and it should be given instant veterinary assistance. Bovine is the most affected species with dystocia. Etiology of dystocia may be classified either maternal or fetal cause (Noakes, 2009). Among maternal causes of dystocia include uterine inertia, uterine torsion, neoplasm in vulva, narrow pelvis, feeding of dam during pregnancy (Purohit et al., 2011). Fetus oversize, malpresentation, malposition, postural defects of fetus, and congenital abnormalities are considered to be potential cofactor of fetal origin dystocia (Pugh and Baird, 2012; Purohit et al., 2013).

Dystocia is an emergency condition and should be handled immediately. Delay or ignorance in management may increase the loss of calf or dam. There may happen metritis or septic metritis, fibrosis as a complication (Mee, 2008; Christos et al., 2012). Dystocia case can either be handled medically or surgically (Scott, 2006). Medical management is an option when the dam and the fetus are remained as stable where there is proper fetal position, presentation and posture with no obstruction (Noakes, 2009). In such case, prostaglandin F₂ α or Dexamethasone or both synergistically can be used. In addition, oxytocin can be administered intramuscularly with or without calcium borogluconate to assist in contraction of uterus (Smith and Sherman, 2009). On the other hand, surgical management or cesarean section or correction by rotation, version, and forceful traction is needed in where medical treatment will fail to relieve the dystocia (Majeed et al., 1993). This clinical case report

presents the management of dystocia in a cow caused from fetal abnormal posture.

2. CASE PRESENTATION

Case history

An adult Holstein Friesian crossbreed cow weighing 250 kg on its third parity was presented to veterinarians of SAQ teaching veterinary hospital, Chattogram Veterinary and Animal Science University (CVASU), Chattogram, Bangladesh with history of difficulty of giving birth and exhibit sings of parturition from 24 hours ago with rupture of amniotic sac 10 hours ago.

Physical examination

Physical examination revealed that the cow had severe straining since morning and had tachycardia, pale mucous membrane. The cow was weak and on recumbent position. The fetal head and the left forelimb were exposed in the vulva region (Figure 1). Fetal examination confirmed the fetus was already dead as there was no suckling reflex. The fetal presentation was found as normal with anterior presentation, normal position with dorso-ventral position, but posture was abnormal where the right carpal joint was flexed. This posture resulted in the engagement of the fetal chest in the pelvic brim of the dam. Based on per vaginal examination, the condition was diagnosed as fetal dystocia due to unilateral carpal flexion posture.

Treatment and management procedure of the case

The main purpose of managing this case was to remove the dead fetus via fetotomy followed by traction. At first, decapitation was performed at atlanto-occipital joint using sharp knife (Figure 2). Later, a snare was placed the fore left limb, then repulsion of dead calf was done into the dam's birth canal to create enough space finding out the flexed right limb. The retained limb was then grasped, placed another snare to that limb and the carpus was pushed upwards. Afterward, the foot was carried outwards for foot extension. Consequently, vigorous traction was done using both snares that were placed previously into both limbs. Finally, the rest part of the fetus exposed out (Figure 3) from dam's birth canal. Hereafter, the cow was taken under post-operative care (Figure 4).

On successful post operation the cow was treated with Anti-inflammatory/analgesic ketoprofen (Kynol Vet®, Eskayef Pharmaceuticals Ltd.) @ 3.33 mg/kg body weight administered intramuscularly and 3 liters of 5% Dextrose (DA 5%®, ACME Pharmaceuticals Ltd) fluid was administered intravenously to prevent shock during fetal extraction and to correct the dehydration status. Immediately after calf delivery, the cow was therapeutically treated with Oxytocin (Oxcin vet®, Techno Drugs Ltd.) @20IU at once, parental antibiotic Ceftriaxone sodium (Renacef -Vet®, Ranata Pharmaceuticals Ltd.) @10mg/kg body weight intramuscularly, SID for five days, antihistaminic pheniramine maleate (Alerin®, Eskayef Pharmaceuticals Ltd.) @5ml administered intramuscularly SID for five days, Calcium borogluconate (Decam-vet®, Acme Laboratories Ltd) @200ml intravenously SID for three days to maintain uterine tenacity. The case was followed up for 14 days after treatment and the cow recovered uneventfully following post-partum therapeutic management.



Figure 1. The head and left limb of the dead calf exposed outside



Figure 2. Decapitation of fetal head at atlanto-occipital joint



Figure 3: After expulsion of fetus



Figure 4: Cow after relieving from dystocia

3. DISCUSSION

The economic importance of dystocia among cattle population cannot be over-emphasized. It is one of the primeresponsible factors in economic losses from perinatal death of dam and fetus (Brounts et al., 2004; Holland et al., 1993). Generally, dystocia may result due to maternal or fetal causes (Noakes, 2009). In this study similar scenario has observed as the dystocia was fetal origin. The Incidence of dystocia due unilateral carpal or shoulder flexion is 11.4% in beef cattle. According to Amen and Ali, (2010) the prevalence of dystocia because of fetal postural defect was 8.3%, fetal malposition 5.3%, narrow pelvic canal 5.3% and 3.0% as a result of fetal monstrosities. Another author Jeengar et al., (2015) reported fetal causes of dystocia 21.11% in cows and 19.67% in buffaloes. In this study, the fetal abnormal posture characterized by unilateral carpal flexion where the right carpal joint was in flexed condition. Majeed et al., (1993) described carpal flexion as the most common and easily corrected type of dystocia. Majeed and Taha, (1995) mentioned several procedures to handle patients suffering from dystocia these procedures include (1) mutation to

correct abnormal presentation, position and posture of fetus by manipulation, (2) traction where application of outside force used to assist dam to expel fetus, (3) fetotomy to reduce the size of dead fetus within the uterus, and (4) cesarean section by delivering fetus through laparohysterotomy. In this study, procedure (2) and (3) were used to remove the dead fetus. Procedure (1) was not used as the presentation and position of the fetus was normal. Procedure (4) was also not applied here because the fetus was already exposed out of birth canal. Noakes (2009) and Youngquist and Threlfall, (2006) recommended traction and repulsion followed by episiotomy to deliver the calf, which is somewhat different from this study as episiotomy was not performed here to avoid future risk of infertility and as the vulva was expand enough to expel out the fetus. Prolonged dystocia may result in necrotic metritis, which was also suggested by Mee, (2008); Christos et al., (2012). In short, this case report described the successful management of dystocia in a cow using minor surgery combined with medical approach.

4. CONCLUSIONS

In conclusion, by determining the factors rapidly, the occurrence of dystocia can be prevented or treated quickly to save the lives of the dam and the fetus as well as to prevent economic losses. In this case, the prognosis of the cow was good but the fetus was dead. It is therefore, recommended that to be more conscious about delivery of a cow and contact with registered veterinarian if there need any assistance to deliver calf.

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