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Surgical management of dystocia due to Fetal emphysema in a crossbred cow

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Abstract

A full term crossbred HF cow in its fourth parity was presented with the history of one foetal leg outside from the vulva and was unable to deliver since 13 hours. On clinical examination, all the vital parameters were within normal physiological range. Obstetrical examination revealed dry, edematous birth passage with dead emphysematous foetus in anterior longitudinal, dorso-sacral and left lateral deviation of head and neck, right unilateral shoulder flexion. Since the uterus tightly wrapped over the dead emphysematous fetus which was relieved by caesarean section. Postoperatively, the animal was treated with Inj. Streptopenicillin 5g i.m, Inj. Flunixin meglumine 8 ml i.v, and Inj. Chlorpheniramine maleate 10 ml i.m along with Inj. 5% Dextrose normal saline 4 lit i.v parenterally. Antibiotics, anti-inflammatory and supportive therapy was continued for five days and animal had an uneventful recovery.

Keywords: Dystocia, emphysematous Fetus, caesarean section, crossbred cow

Introduction

Dystocia is defined as difficult in calving that reduces calf viability, causes maternal injury and requires assistance [1] and it reflects a negative impact on production and reproduction of dairy cows [2]. Fetal malposition is the most frequent cause of dystocia (64.08%) in dairy cattle of which head deviation (20.4%) and limb flexion (19.4%) are the commonest causes [3]. Fetal emphysema is a frequent complication of calving and is characterized by putrefaction, gas formation in the subcutaneous tissue within 24 -72 hours following death of fetus and thus the fetus becomes soft, decomposed and distended with gases [4] which is always suspected in prolonged cases of dystocia exceeding over 24 hours. Ascending infection from the vagina is the common cause of emphysema in dead fetus. Attempting a fetotomy on an emphysematous fetus with the tightly contracted uterus, little lubrication, incompletely dilated cervix, or friable uterus is inadvisable [5]. Grossly over enlarged and emphysematous monstrosities are extremely difficult to relieve by fetotomy and hence caesarean section should be performed [6].

Materials and Methods

A full term crossbred HF cow on its fourth calving was presented with the history of one foetal leg outside from the vulva and was unable to deliver since 13 hours. On examination, rectal temperature was 102°F and all other vital parameters were within normal physiological range. Examination of genital tract revealed the birth passage was dry, edematous and the foetus was dead and emphysematous. The presentation, position and posture were anterior longitudinal, dorso sacral and left lateral deviation of head and neck, right unilateral shoulder flexion respectively. The condition was diagnosed as dystocia due to dead emphysematous fetus with left lateral deviation of head and neck and unilateral shoulder flexion. Since the uterus tightly wrapped over the dead fetus vaginal delivery by fetotomy approach was futile. Hence it is decided to deliver the fetus by caesarean section.

Caesarean section was performed under high caudal epidural anaesthesia combined with local infiltration anaesthesia produced by 2% Lignocaine solution on left paralumbar approach in standing position adopting standard protocol described by Noakes *et al.* [1]. The uterus was located and incised and a dead emphysematous fetus was removed by grasping hind limbs. Uterus was then closed after flushing with metronidazole, using cushioning inversion sutures. Celiotomy incision was closed as per standard procedure after flushing peritoneal cavity with metronidazole solution. The animal was administered with Inj. Streptopenicillin 5g i.m, Inj. Flunixin meglumine 8 ml i.v, and Inj. Chlorpheniramine maleate 10 ml i.m, along with Inj. 5% Dextrose normal saline 4 lit i.v parenterally.

Antibiotics, anti-inflammatory and supportive therapy was continued for five days. Animal had an uneventful recovery.

Results and Discussion

Dystocia due to fetal cause are common in cattle [3] and Purohit *et al.* [6] reviewed incidence of dystocia higher with male calves and require assistance than female calves. Newman *et al.* [7] recorded male calves had longer gestation length and experienced calving difficulty 8.5% more than its counterparts. And in the present case also animal was pregnant about 286 days and was a male fetus.

It is difficult to ascertain whether raise in still birth rates are due to dystocia or dystocia caused by intrauterine death of calves [8]. Zaborski *et al.* [9] thought that the death of a calf before the start of expulsive process significantly increases the risk of malpresentation. Johanson and Berger [10] concluded that 49% of perinatal mortality was associated with unassisted births in Holstein cattle. As fetus dead start putrefying and gas accumulates in subcutaneous tissues (emphysema formation) resulting in increase in its size within 24-72 h [3], is the sequel to all conditions resulting in fetal death and should be suspected in prolonged cases of dystocia. Calving difficulty exceeding 24 h results in weak and intermittent abdominal contractions or ceases completely. The uterine wall may be tightly contracted over the dead fetus and the cervix may also be contracted, vaginal mucus membrane become dry, swollen and fetid vaginal discharge may be seen as in our case.

With fetus in normal presentation, position and posture using lubricant fetus may be removed by forced traction. In case of any emphysema it is necessary to relieve gas before correction by deep incision or partial fetotomy.

Attempting a fetotomy on an emphysematous fetus with tightly contacted uterus, little uterine fluid, incompletely dilated cervix, or uterus is friable is inadvisable [5] and in such case caesarean section could be performed. Newman and Anderson [11] observed decrease in survival rate of cow from 86% with a live calf, to 79% with a dead calf, to 33% with an emphysematous fetus but in our case the cow recovered uneventfully after 10 days and inseminated and conceived. Cesarean section in dairy cattle did not change the interval to first service or subsequent gestation length [12] and Cattell and Dobson [13] recorded 72% pregnancy rate in dairy cows that had caesarean sections.



Fig 1: Dead emphysematous fetus relieved by cesarean section

Conclusion

As the fetal cause of dystocia is more common in cattle, cows approaching parturition must be observed closely and if any delay in stages of parturition immediate veterinary assistance may be sought. The goal of the cesarean section is to preserve productive and reproductive efficiency of the cow hence case selection is the most important. Cesarean section should only be considered as a last resort because of the potential complication of developing peritonitis.

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