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Management of dystocia due to fluid filled peritoneal cavity and intestines of fetus in a crossbred Jersey heifer

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Abstract

A four year old nulliparous full term pregnant heifer was brought to large animal unit of the Department of Veterinary Gynaecology and Obstetrics, VCC with a history of rupture of water bag eight hours before followed by unproductive straining. Based on clinico-gynaecological investigation, the condition was tentatively diagnosed as dystocia due to over-sized fetus with fluid filled peritoneal cavity. The fetus was in posterior longitudinal presentation and dorso-sacral position. As the fetus was dead, fetotomy was performed to evacuate the fluids and the fetus was delivered per-vaginum. Following supportive therapy, the dam had uneventful recovery.

Keywords: Dystocia, Fetal ascites, Posterior presentation

1. Introduction

In many species, one of the causes for dystocia is abnormally over-sized fetus due to fetal ascites. This condition is more often reported in dairy cattle when compared to other farm animals [1]. Several causes for ascites have been identified in cattle. Conditions which cause obstruction of the lymphatic drainage may prevent or decrease the removal of the fluids from the peritoneal cavity ending up in fetal ascites. Excessive production of the peritoneal fluids in the fetus was also reported to cause fetal ascites in bovines [2]. Further, in cattle and buffaloes, dystocia was also reported due to increased accumulation of fluid in the intestines leading to distension of gastro-intestinal tract and thereby increasing the size of the fetus [3]. The present clinical case study discusses about a successful management an unusual case of dystocia due to over-sized fetus caused by increased fluid accumulation in the peritoneal cavity and intestines.

2. History of the case and observation

A four year old nulliparous cross-bred Jersey full term pregnant heifer weighing about 350 kgs was brought to the large animal ward of Obstetrics, Teaching Veterinary Clinical Complex, RIVER, Puducherry with a history of rupture of water bag eight hours before followed by unproductive straining for delivery. History revealed that the animal had straining since yesterday night. Clinical examination indicated normal vital parameters except for increased respiration rate. The animal was standing when presented. Following sufficient lubrication, per-vaginal examination was done to evaluate the status of the fetus. Per-vaginal examination revealed that the fetus was over-sized and it was in posterior longitudinal presentation, dorso-sacral position and hind limbs extended through the birth canal. Further detailed vaginal examination revealed that the bigger size of the fetus was due to excessive fluid filled fetal intestines and the peritoneal cavity. Based on the vaginal examination, the case was diagnosed tentatively as dystocia due to over-sized fetus following excessive fluid accumulation in the peritoneal cavity and intestines of the fetus.

3. Treatment procedure

To check the excessive straining of the heifer, it was decided to administer epidural anaesthesia to restraint the animal. About 3 ml of Inj. 2% Lignocaine HCL was injected at sacro-coccygeal site of the heifer.

Per-vaginal investigation revealed that the cervix was fully dilated and the fetus was in longitudinal posterior presentation with both the hind limbs protruding towards the birth canal. Vaginal examination also revealed an unusually grossly enlarged fluid filled abdomen and the fetus was found to be dead. Mutational operations were attempted to relieve the fetus per-vaginum however, it was unsuccessful. As the fetus was dead, it was decided to perform fetotomy to relieve the fetus per-vaginum so as to save the life of the heifer. After palpation of the fetal abdomen and by using palm concealed fetotomy knife (Fig.1), a cut of about three inches was made in the distended abdominal area of the fetus to evacuate the excessive peritoneal fluid present in the peritoneal cavity. During the fetotomy procedure, care was taken to avoid any damage to the uterus of the dam. Simultaneously, the fetal abdomen was crushed using the hand so as to initiate fluid expulsion from the peritoneal cavity of the fetus (Fig.2). This procedure resulted in expulsion of watery sero-sanguinous fluid through the vaginal passage. Around 30 litres of sero-sanguinous discharge was evacuated from the fetus per-vaginum. Expulsion of the fluids resulted in reduction in the size of the fetal abdomen. Snare was applied to both the hind limbs. The dead fetus along with the placenta were removed per-vaginum by applying traction on both the hind limbs of the fetus (Fig.3). The dam was administered with NSAID (Inj. Meloxicam) and anti-histamine (Inj. Chlorpheniramine maleate). The dam had an uneventful recovery.

4. Discussion

One of the occasional causes for dystocia in cattle is dropsy of peritoneum or ascites of the fetus. Dropsy of the peritoneum is a common disorder encountered during different systemic conditions especially infectious diseases and also during any congenital developmental defects in the fetus [5]. Dropsy of peritoneum is also reported following hepatic lesions and general fetal venous congestion. Hepatic lesions like congestion of liver were found to increase the hepatic lymph. This condition has an impact decreasing the urinary excretion of water [6]. Obstruction in the urine outflow in the fetus followed by rupture of the urinary bladder was also reported to cause ascites in bovine. Increase in the size of the fetal abdomen is usually found to occur following any pathological enlargement of any body cavity or fluid secreting organs due to any anomaly in development resulting in stenosis of the duct system. Excessive accumulation of fluid in the gastrointestinal tract of fetus due to ingestion of fluids resulting in increase in the size of the fetal abdomen was also reported in cattle [4]. In the present case, dystocia is due to increase in the size of the fetus especially the abdomen. Increase in the size of the fetal abdomen in the present case was due to excessive fluid accumulation in the peritoneal cavity as well as the intestine of the fetus. The case for the condition may be due to some developmental defects in the fetus. Evacuation of the excess fluids from the peritoneal cavity found to reduce the size of the fetus, which facilitated delivery of the fetus per-vaginum.



Fig 1: Palm concealed fetotomy knife



Fig 2: Manual traction



Fig 3: Dead fetus with ascites

5. Conclusion

It can be concluded from the present case study that fetus with enlarged abdomen due to ascites and or excessive accumulation of fluids in the intestines can be delivered per-vaginum by evacuating the fluids from the cavities by performing fetotomy and thereby saving the life of the dam.

7. References

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