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Management of dystocia due to hydrocephalous foetus in non-descript cattle

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Abstract

Dystocia due to monster foetus and bloat are critical complications in bovine obstetrics, often requiring prompt intervention. This case study examines a 6-year-old non-descript cow presenting with straining, dystocia and bloat. Clinical examination revealed a fully dilated cervix with a dead foetus in anterior presentation, complicated by a bloated rumen and laboured breathing. Initial interventions included trocar cannula insertion for bloat relief, epidural anesthesia and unsuccessful manual correction of foetal position. A Caesarean section was then performed under aseptic conditions with local lignocaine anesthesia, followed by uterine extraction of the foetus. Post-operative care involved fluid therapy, antibiotics and analgesics. The dam recovered successfully, with normal feed intake resuming and suture removal on day 13 post-surgery, confirming wound healing. This case highlights the importance of timely surgical intervention and comprehensive post-operative management in complex bovine obstetric emergencies, offering valuable insights for future veterinary practice.

Keywords: Dystocia, monster foetus, epidural anesthesia

1. Introduction

Dystocia, defined as difficult or abnormal labor, presents a significant challenge in bovine practice, often leading to stillbirths and increased maternal mortality (Kebede *et al*., 2017) [3]. The condition can arise from various factors, including foetal malposition, foetal-maternal disproportion and uterine inertia (Weldeyohanes and Fesseha, 2020) [6]. Prompt and effective management of dystocia is crucial to prevent severe complications and ensure the survival and health of both the dam and the foetus (Simões *et al*., 2021) [5]. Complicating the management of dystocia is the occurrence of bloat, characterized by the distension of the rumen with gas, which exacerbates the condition by exerting pressure on the diaphragm, thereby impeding respiratory function and causing severe discomfort (Yirdachew and Mekonnen, 2022) [7]. Immediate intervention is required to relieve the bloat and stabilize the animal for further obstetric procedures.

This case report details the comprehensive management strategies employed for a 6-year-old non-descript cattle presenting with dystocia and bloat. The clinical presentation included a fully dilated cervix with a dead foetus in anterior presentation and an abnormally large head, alongside signs of laboured breathing and a bloated rumen. Initial interventions focused on relieving the bloat through trocar cannula insertion and attempting manual correction of the foetal position under epidural anesthesia. However, due to the foetus's abnormal size and positioning, these efforts were unsuccessful, necessitating a Caesarean section under aseptic conditions.

The aim of this paper is to provide a detailed account of the clinical examination, diagnosis, treatment modalities and surgical interventions undertaken, highlighting the critical importance of timely surgical intervention and

comprehensive post-operative management in such complex cases. This case contributes valuable insights into the challenges and clinical approaches in managing dystocia and bloat in cattle, offering guidance for future veterinary practice.

Case Presentation

A 6-year-old non-descript cattle was presented with a history of straining during labor, accompanied by laboured breathing, bloated rumen and normal body temperature (101.2^0F). Clinical examination revealed dystocia, characterized by a fully dilated cervix and a dead foetus in anterior presentation, dorso-sacral position, with a downward deviation of the head and abnormal head size. The animal exhibited significant discomfort due to ruminal distension. Initial treatment included trocar cannula insertion to relieve the bloat and epidural anesthesia to facilitate attempts at manual correction of the foetal position.

Despite these efforts, correction was unsuccessful due to the foetus's abnormal size and positioning. Consequently, a Caesarean section was deemed necessary and performed under strict aseptic conditions. Local Anesthesia was administered lignocaine (Kasse, 2021) [2]. Post-operative care involved fluid therapy, antibiotics and analgesics, resulting in the successful recovery of the dam with complete resolution of clinical signs.

Treatment

Upon presentation, the cow exhibited significant signs of bloat and dystocia. The treatment commenced with the relief of bloat by puncturing the abdomen with a trocar cannula, allowing for the eructation of gas. Additionally, 100 ml of Syrup Bloatosil was administered intra-ruminal to aid in the relief of bloat.

For the management of dystocia, epidural anesthesia was applied by administering 10 ml of Lignocaine between the sacrum and the first coccygeal vertebrae. The animal was then cast to facilitate further intervention.

The preparation for the Caesarean section began with shaving the area above the udder on the left side of the abdomen. The surgical site was then scrubbed centrifugally with Savlon, followed by an application of liquid Betadine to ensure aseptic conditions (Ratnam, 2020) [4]. For anesthesia, Lignocaine was administered in two stages: 10 ml was given epidurally to provide regional anesthesia and an additional 15 ml was applied locally at the incision site to ensure the area was adequately anesthetized for the surgical procedure. The Caesarean section began with intravenous fluid therapy administered via the jugular vein to stabilize the animal.

A skin incision was made using a No. 22 BP blade with an oblique cut just above the left udder. Subcutaneous fat was removed and capillary bleeding was managed with sterile gauze. The underlying muscle layer and peritoneum were then cut to access the uterus, which was carefully exteriorized and palpated to locate the foetus. A less vascular area on the uterus was selected and a small incision was made using a BP blade, which was then extended with scissors. The foetus, which had an abnormally developed head (monster foetus) and anasarca condition, was grasped and removed with traction. The uterus was sutured with a double-layer Lambert suture using 1 No. Vicryl, followed by separate suturing of the peritoneum with the same material. The muscle layer was closed with a combination of continuous and interrupted layers using 2 No. Vicryl and the subcutaneous layer was sutured with 2 No. Vicryl. The skin incision was closed with non-absorbable 2 No. Silk sutures and the surgical site was dressed with Betadine.

Plate 1: Hydrocephalous Fetus

Plate 2: Skin Incision Suture Site

Plate 3: Antiseptic dressing with liquid betadine and to retain it stay suture were applied

Plate 4: Post surgery aneasthesia recovery

Plate 5: Complete recovery after day 13 of surgery

Post-operative care included the administration of several medications: 15 ml of Meloxicam intramuscularly for pain relief, 6 ml of Dexamethasone intramuscularly as a steroid anti-inflammatory, 1 gm of Ceftiofur sodium intramuscularly as an antibiotic and 10 ml of Tribivet intravenously as a multivitamin supplement. Additionally, 4 litres of Dextrose Normal Saline (DNS), 2 litres of Ringer's Lactate (RL) were administered intravenously, along with 500 ml of Metronidazole and 450 ml of Calcium Borogluconate (slow I/V). Four boluses of Furea were placed intra-uterine to further support recovery and to prevent post-parturient endometritis and retention of placenta (ROP). This comprehensive surgical and post-operative regimen resulted in the successful recovery of the dam, with a complete resolution of clinical signs and normal resumption of feed intake.

Results

The surgical procedure was successful in removing the foetus despite challenges posed by its abnormal development. The dam recovered well post-operatively with complete resolution of clinical signs and normal resumption of feed intake. Suture removal was performed on day 13, confirming complete wound healing.

Discussion

Dystocia and bloat require a multi-faceted approach combining medical and surgical interventions tailored to the specific circumstances of each case. Non-surgical techniques such as foetotomy may be attempted initially but may be limited by fetal size and position, necessitating timely transition to surgical options like Caesarean section. Dhindsa *et al*. (2019) [1] states that if surgery is performed within 12 h of onset of occurrence of dystocia and prompt and wise decision regarding c-section as treatment to relieve dystocia is taken without injudicious handling of the animal. Proper anesthesia, meticulous surgical technique and comprehensive post-operative care are crucial for optimizing outcomes and preventing complications such as infection and postpartum disorders. However Postoperative fertility is reduced by approximately 15% of that of cows that did not have a C-section, with postoperative fertility rates expected to be between 60 and 80%. Positive outcomes in such cases depend on early diagnosis and the correct course of treatment. To avoid delays, these cases should be referred to higher centers rather than being managed locally.

Conclusion

This case study highlights the successful management of dystocia and bloat in cattle through a combination of trocar cannula for bloat relief, epidural anesthesia, foetotomy attempts and ultimately, Caesarean section. Each step of the intervention was critical in ensuring a favourable outcome for both the dam and the foetus. Further research and standardized protocols are recommended to refine and improve the management of such complex obstetric cases in veterinary practice.

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