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DYSTOCIA DUE TO COMPLETE PRIMARY UTERINE INERTIA IN AN AMERICAN BULL BITCH

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Abstract: A second parity American bull bitch was brought to the Teaching Veterinary Clinical Complex-FVAS-BHU-Mirzapur, with the history of having completed its full term gestation but not showing any sign of whelping. A general clinical examination revealed the bitch was active and alert and all the vital parameters were within the physiological range. Abdominal palpation revealed the presence of fetal mass. A per-vaginal examination revealed the cervix was bully dilated, but no fetal parts were palpable. Radiographic examination revealed the presence of many fetuses in the abdominal cavity. The bitch was treated with oxytocin @ 0.2 IU/kg bodyweight slow I/V with 25% dextrose 0.2ml/kg bodyweight slow I/V waited for 15 to 20, minutes but no puppies were palpable in the birth canal. Then we decided to go for a cesarean section to relive the puppies. The surgical site was prepared aseptically and the bitch was pre-medicated with inj. Xylazine @ 1 mg/kg i/m and inj. Atropine Sulphate @ 0.02 mg/kg i/m followed by induction with 2 to 4 % isoflurane, and maintenance with 2 % isoflurane. Skin, abdominal muscles and peritoneum were incised in a routine manner and exploration of uterus was done. Four live puppies were relived from both the uterine horn. The uterus was sutured with cushing, followed by lembert pattern. Peritoneum, abdominal muscles and skin were sutured in a routine manner. The bitch was treated with antibiotic Inj cefotaxime (50 mg/ kg, slow I/V and injection Melonex 0.25mg/kg.bwt I/M for 5 days. The bitch was recovered uneventfully with appropriate postoperative care. In the present study, we concluded that exploratory laparotomy is a choice of treatment for primary complete uterine inertia in bitches.

Keywords: Bitch, Dystocia, Exploratory Laparotomy, Uterine inertia

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INTRODUCTION

Uterine inertia is defined as the inbility of uterine musculatures to contract during labor or after whelping due to exhaustion uterine muscles. This is the most common cause of maternal dystocia, which contributes around 40 to 75% (Darvelid and Linde-Forsberg, 1994) among all the maternal causes. The uterine inertia may be classified as primary or secondary. The incidence of primary uterine is high in bitches and this is often due to hormonal insufficiency of ecbolic hormones, where as secondary uterine inertia is commonly observed in bovines and this is mainly due to fatigue of uterine musculatures (Roberts, 1985). Primary uterine inertia is predisposed to secondary uterine inertia. Primary inertia is defined as the failure of sufficient uterine myometrial contractions to expel the puppies when the bitch has a normal birth canal and normal sized puppies (Prashantkumar, et al., 2018). Primary uterine inertia classified in to complete or partial. Complete primary uterine inertia which occurs in 50% of dystocia cases in bitches (Balamurugan and Maurya 2022). In this type of inertia, the bitch fails to initiate the 2nd stage of labor so no puppies are delivered. Partial primary uterine inertia was observed in 23% of dystocia cases in bitches (Balamurugan B and Maurya 2022). In this type of inertia, there is an initiation of normal labor followed by delivery of her puppies, but fail to deliver all the puppies, since this labour ends prematurely. This case was diagnosed as dystocia due to primary complete uterine inertia in an American bull bitch and it was corrected through exploratory laparotomy.

HISTORY AND OBSTETRICAL OBSERVATIONS

A second parity American bull bitch was brought to the Teaching Veterinary Clinical Complex-FVAS-RGSC-BHU-Mirzapur, with the history of having completed its full-term gestation but not showing any sign of whelping. A general clinical examination revealed the bitch was active and alert and all the vital parameters were within the physiological range. Abdominal palpation revealed the presence of fetal mass. A per-vaginal examination revealed the cervix was bully dilated but no fetal parts were palpable. Radiographic examination revealed the presence of many fetuses in the abdominal cavity. The bitch was treated with oxytocin @ 0.2 IU/kg bodyweight slow IV with 25% dextrose at 0.2ml/kg bodyweight slow IV and waited for 15 to 20 minutes but no puppies were palpable in the birth canal. Then we decided to go for a caesarean section to relive the puppies.

TREATMENT AND DISCUSSION

The surgical site (mid ventral area) was prepared aseptically and the bitch was pre-medicated with inj. Xylazine @ 1 mg/kg i/m and inj. Atropine Sulphate @ 0.02 mg/kg i/m followed by

induction with 2 to 4% isoflurane, and maintenance with 2% isoflurane. The skin, abdominal muscles and peritoneum were incised in a routine manner and exploration of the uterus was done. Four live puppies were relived from both the uterine horns. Then the uterus was irrigated with normal saline to evacuate the lochial discharge completely. The uterus was sutured with cushing followed by a lembert pattern using absorbable catgut size 1-0. The peritoneum, abdominal muscles, was sutured with a continuous lock stitch suture pattern using absorbable catgut size 2-0, and skin was sutured with a horizontal mattress suture pattern using black braided silk no.1 and a protective bandage was applied. The bitch was treated with Inj. Cefotaxime @ 50 mg/ kg, slow I/V and inj. Melonex @ 0.25mg/kg.bwt I/M for 5 days. The bitch had an uneven full recovery. Dystocia is an emergency condition in bitches and it can be life-threatening for both the dam as well as fetus (Nokes et al., 2019). The most common cause of maternal dystocia in the bitch is primary uterine inertia (Darvelid and Linde-Forsberg, 1994). Primary uterine inertia could be either complete or partial. In complete primary uterine inertia, there is no progress of second stage of labor. In partial primary uterine inertia, the bitch starts to deliver her puppies, but the labor ends prematurely, despite the presence of a patent birth canal (Bergstrom et al., 2006). Uterine contractions are present in the initial stages of the whelping process and then cease later on. In the present case, cervix was not fully dilated, with the history of no puppies being delivered and per vaginally no foetus being palpated, suggesting that uterine contractions could have stopped and complete primary uterine inertia was setup in the dam which requires immediate intervention for the welfare of the dam and foetuses. Primary uterine inertia may occur due to a deficiency of oxytocin, serum calcium, and blood glucose. Successful management of dystocia depends upon the correct diagnosis of its causes and the adoption of suitable corrective measures. Exploratory laparotomy should be the first line of treatment in all cases of complete or partial uterine inertia to enhance the survival rate of the puppies (Singh et al., 2020).

Conclusion

The bitch was recovered uneventfully with appropriate postoperative care. In the present study, we concluded that exploratory laparotomy is a choice of treatment for complete primary uterine inertia in bitches.

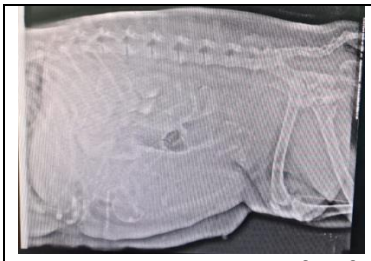

Fig.1. Presence of fetus in the radiograph

Fig.2. Mid ventral incision

Fig. 3. Exteriorized uterus

Fig.4. Incision made on body of the uterus to remove the puppies

Fig.5. Viable fetuses

Fig.6. Uterus after removal of the puppies

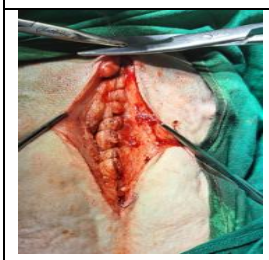

Fig.7. Sutured abdminal muscles

Fig.8. Bitch recovered after cesearean

References

[1] Darvelid AW, Linde-Forsberg C (1994). Dystocia in the Bitch: A retrospective study of 182 Cases. Journal of Small Animal Practice. 35:402-407.

[2] Roberts S.J (1985). Uterine Inertia. In: Veterinary Obstetrics & Genital Diseases. 3rd edn. CBS publishers and distributors. p.347-348.

[3] Prashantkumar, Krishnaswamy A and Walikar A (2018). Evaluation of treatment protocols for complete primary uterine inertia in female dogs. The Pharma Innovation journal 7(6): 661-664.

[4] Balamurugan B and Maurya V. (2022). Canine Reproduction a book for practicing veterinarians and students. 1st edn. Jaya Publishing house, New Delhi.p.136-140.

[5] Bergstrom A, Fransson B, Lagerstedt AS and Olsson K (2006). Primary uterine inertia in 27 bitches: aetiology and treatment. Journal of Small Animal Practice. 47: 456-460.

[6] Singh G, Kumar R, Kumar A and Kumari M (2020). Management of Dystocia due to Primary Uterine Inertia in Bitch A Case Report. Theriogenology Insight. 10(1): 01-04.

[7] Nokes DE. Parkinson TJ. And Gary CW and England (2019). Veterinary Reproduction and Obstetrics England (10th edn.). Saunders Elsevier. p.330-332.