SURGICAL MANAGEMENT OF DYSTOCIA IN A RAJAPALAYAM DOG DUE TO PRIMARY UTERINE INERTIA

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ABSTRACT

A three year old primiparous female Rajapalayambitchcrossed 63 days back was presented to the Teaching Veterinary Clinical Complex (TVCC), Mannuthy, with a complaint of difficulty in whelping. Per vaginal examination revealed a foetus in the birth canal and bitchdid not exhibit any signs of uterine contractions and straining. Sonographic examination revealed viable foetuses with low heart beats. The foetus presented was expelled, following medical managementwithout any assistance and no further progress was observed. Remaining seven live pups present in the distended and extremely thin uteruswere recovered by conducting emergency caesarean section. The condition was clinically diagnosed as partial primary uterine inertia due to over distension of the gravid uterus.

Keywords: Rajapalayam, partial primary uterine inertia, caesarean-section

INTRODUCTION

Primary uterine inertia is one of the most common causes of dystocia in case of polytocous species like dogs. It is characterized by a failure to expel normal-sized foetuses through a normal completely dilated birth canal without any signs of second-stage labour occur. Partial primary uterine inertia is defined as a condition where parturition begins normally with lochia in the vagina or vestibule in affected bitches, but without uterine contractions before expulsion of the puppy (Frehner et al., 2018). It is a serious condition and requires immediate attention and treatment. Usually the condition can be effectively managed with administration of calcium, dextrose and oxytocin but surgical intervention is needed for unresponsive cases.Perusal of literature failed to find any references relating to inertia or caesarean section in Rajapalayam bitch.

CASE HISTORY AND OBSERVATIONS

A three years old primiparous Rajapalayambitch (body weight 24.7 kg) was presented to TVCC, Mannuthy at night hours. Animal was crossed 63 days before and it had exhibited signs of parturition (greenish discharge) from the morning of the day of presentation. The bitch was active when presented and the temperature, heart rate and respiration rate recorded were 100.7°F, 122 beats/min and 31 inspiration/min, respectively. On pervaginal examination after due aseptic care, one foetus was found presented in the birth canal. Feathering of the dorsal vaginal wall failed to yield any straining. Abdominal palpation revealed presence of multiple foetuses and Ultrasonography with 5MHz curvilinear probe(Mindray DC-6Vet, Shenzhen Mindray and Biomedical Electrononics, China) recordedthe presence of multiple live foetuses with a heart rate indicative of moderate foetal stress (Gil *et al.*, 2014). The condition was diagnosed as partial primary inertia, as the whelping process had started without progression. The bitch was active and the cervix was patent, it was decided to commencewith medical management of the dystocia.

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TREATMENT AND DISCUSSION

The bitch was treated intravenously with slow calcium gluconate infusion at a dose rate of 0.2ml/ kg body weight and 25% Dextrose solution at a dose rate of 1g/kg followed by 3 IU of oxytocin mixed with 100ml of NS as slow drip. Moderate straining was observed following administration of oxytocin. After an hour of treatment, one live pup was delivered without any traction. Subsequently, straining subsided and no foetus could be detected up on per-vaginal examination. A sigmoidoscopic examination also failed to reveal presence of any foetus in the vagina. Another dose of oxytocin (2 IU) was given as intravenous bolus but it failed to yield any response.Subsequently, ultrasonography revealed that the heart rates of the foetuses had reduced indicating severe foetal stress. The condition was diagnosed as primary partial uterine inertia that might have reduced the expulsive force during second stage of parturition due to deficiency in the contractile potential of the myometrium (Arthur *et al.*, 1989). This in turn might be due to reasons like reduced oestrogen concentration at the time of whelping; deficiencies of oxytocin, prostaglandins or their receptors, calcium and related inorganic ions such as magnesium; overstretching of the myometrium due to the presence of a large litter or excess foetal fluids (hydroallantois), or understretching due to a small litter in polytocous species; fatty infiltration between the layers of the myometrium **(ref).**

In the present case, the bitch had overstretched myometrium without any progress in the process of whelping,emergency caesarean-section was performed(mid-ventral approach) under general anaesthesia with propofol (4.5 mg/kg), glycopyrrolate (0.01mg/kg) and midazolam (0.2mg/kg) (Liao *et al*., 2017)following tracheal intubation. The uterus was observed to be thin and excessivelystretched due to multiple foetuses and foetal fluids (Fig No.1). Seven live puppies were recovered from the gravid uterus. The surgical incision was closed as per standard procedure. The animal was treated post-operatively with ceftriaxone @ 25 mg/kg b.wti/v andMetronidazole@ 20mg/kg b.wti/v daily for five days and tramadol @ 2mg/kg b. wt. for two days. The incision site healed normally and the animal had an uneventful recovery.Perusal of literature failed to yield any cases / information related to dystocia or uterine inertia in Rajapalayam bitches. Additionally, the combination of propofol, glycopyrrolate and midazolam was successfully used for caesarean section in Rajapalayam bitch.

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REFERENCES

Arthur, G.H., Noakes, D.E, Pearson, H. (1989). Dystocia and other disorders associated with parturition. In Veterinary Reproduction and Obstetrics. 6th ed, Bailliere Tindall, London, 1989, 182-230.

Frehner, B.L., Reichler, I.M., Keller, S., Goericke Pesch, S. and Balogh, O. (2018). Blood calcium, glucose and haematology profiles of parturient bitches diagnosed with uterine inertia or obstructive dystocia. *Reprod. Dom. Anim*. **53**: 680-687.

Gil, E.M.U., Garcia, D.A.A., Giannico, A.T. and Froes, T.R. 2014. Canine fetal heart rate: Do accelerations or decelerations predict the parturition day in bitches?. *Theriogenology.* **82**: 933-941.

Liao, P., Sinclair, M., Valverde, A., Mosley, C., Chalmers, H., Mackenzie, S. and Hanna, B. 2017. Induction dose and recovery quality of propofol and alfaxalone with or without midazolam coinduction followed by total intravenous anesthesia in dogs. *Vet. Anaesthesia and Analgesia*. **44**: 1016-1026.

Fig No. 1 : Exteriorized uterus of the Rajapalayam bitch containing foetus, showing extreme stretching of myometrium and thin uterine walls.