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Case Report

Correspondence:Funda EŞKİ
E-mail: feski@cu.edu.tr

True Vaginal Prolapse in a Golden Retriever Bitch Treated with Oxytocin+Ca for Parturition Induction*

Funda EŞKİ[1], Evren ESİN[1], Şifa KARAHAN[2]

[1] Faculty of Ceyhan Veterinary Medicine, Çukurova University, Adana, TURKEY

[2] Adana Veterinary Control Institute, Adana, TURKEY

ABSTRACT

In this present case was defined a 3 aged, Golden Retriever bitch weighing 30 kg, with the complaint of dystocia and partial initially vaginal prolapse. The patient had developed true vaginal prolapse after receiving a 3 doses Oxytocin+Ca combination to parturition induction, in a private clinic. Following the injection of first Oxytocin+Ca, one pup was born. After repeated Oxytocin+Ca doses, true vaginal prolapse was formed and the remaining puppies were not born. The puppies were removed from uterus by lapro-hysteretomy operation. Following the operation was performed repositioning the vaginal wall and then the ovariohysterectomy was done. Reoccurrence of a vaginal prolapse was not observed and the bitch recovered after the postoperative therapy. Concentrations of progesterone (P4) and estradiol (E2) were 1.79 ng/mL and 5 pg/mL, on postnatal 4th day, respectively. In this case defines true vaginal prolapse may be an indirect effect, increasing estrogen level of parturition induction with Oxytocin+Ca therapy in the bitch.

Key words: Bitch, Oxytocin+Ca, Parturition induction, True vaginal prolapse

Doğumu Uyarmak için Oxytocin + Ca ile Tedavi edilen Golden Retriever Bir Köpekte Tam Prolapsus Vagina

ÖZET

Çalışma materyalini güç doğum şikâyeti ile gelen ve başlangıçta kısmi prolapsus vagina şekillenmiş 3 yaşında, 30 kg canlı ağırlığında Golden Retriever ırkı bir köpek oluşturdu. Köpek özel bir klinikte, doğumu uyarmak için 3 doz Oxytosin + Ca kombinasyonu ile tedavi edildi. Birinci doz Oksitosin + Ca tedavisini takiben bir yavru doğdu. Tekrarlanan dozlardan sonra tam prolapsus vagina oluştu ve uterusta kalan yavrular doğmadı. Laparo-histerektomi operasyonu ile yavrular uterustan alındı. Operasyonu takiben vagina duvarı yerine yerleştirildi ve ovariohisterektomi yapıldı. Postoperatif tedaviden sonra köpek tamamen iyileşti ve prolapsus vagina gözlenmedi. Doğum sonrası 4. günde serum progesteron konsantrasyonu 1.79 ng/mL ve östradiol konsantrasyonu ise 5 pg/mL olarak belirlendi. Bu vakada doğumun uyarılması için tekrarlanan dozlarda Oxytocin + Ca kombinasyonu ile artan östrojen seviyesi, tam prolapsus vaginanın şekillenmesinde dolaylı bir etkisi olabilir.

Anahtar kelimeler: Doğumun uyarılması, Köpek, Oksitosin+Ca, Tam prolapsus vagina

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INTRODUCTION

Generally, vaginal prolapse is the protrusion of edematous vaginal tissue into and through the opening of the vulva occurring during follicular period of the sexual cycle (Johnston et al. 2001). True vaginal prolapse may occur near parturition, as the concentration of progesterone declines and the concentration of oestrogen increases. True vaginal prolapse is a very rare condition in bitch, (Alan et al. 2007; Sarrafzadeh-Rezai et al. 2008). Vaginal prolapse can be caused by vaginal tumours (Williams et al. 2005) or tumors originating from ovarium and cervix (Nak et al. 2012) but this is fairly rare. An attempting to separate female and male dogs that are firmly clasped together during coitus may also be stated among the causes of vaginal prolapse formation may cause the vaginal prolapse (Purswell 2000). However, to the best of our knowledge, there are no published datas available about true vaginal prolapse related to both a dystocia and Oxytocin+Ca used to parturition induction in the bitch.

The rare case defines a 3-year-old female, a Golden Retriever bitch, with distocia and partial initially vaginal prolapse and then true vaginal prolapse which developed due to repeated Oxytocin+Ca injection.

Case Report

This case defines a 3-aged, Golden Retriever bitch, weighing 30 kg, with distocia and partial initially vaginal prolapse (Figure 1).

Figure 1. Partially Vaginal Prolapse in Day 1th at Parturition

In the anamnesis, initially strong abdominal contractions were discontinued after partially vaginal prolapse. Abdominal palpation and USG examination revealed puppies in the uterus. Vaginal examination revealed prolapse vagina, whereas necrosis foci and edema were detected in the prolapsed part. The patient was developed true vaginal prolapse after receiving 3 doses Oxytocin+Ca combinations to parturition induction, in a private clinic (Figure 2).

Figure 2. True Vaginal Prolapse in Days 4th A Postnatal After Repeated Oxytocin+Ca Doses

Following the injection of first Oxytocin+Ca, one pup was born. After repeated Oxytocin+Ca doses, true vaginal prolapse was formed and the remaining offspring were not born. One dead and ten live fetuses were removed from uterus by lapro-hysteretomy operation (Figure 3).

Figure 3. Puppies That were Removed by Lapro-hysteretomy Operation

The lapro-hysteretomy operation was performed after repositioning the vaginal wall with a combination of traction from within the abdomen and external manipulation through the vulva (Figure 4).

Blood samples for progesterone and estrogen hormone analyzes were taken before the beginning the operation. Concentrations of progesterone and estrogen (Progesterone III, Estradiol III, cobas®, Roche) were 1.79 ng/mL and 5 pg/mL, respectively.

Treatment

For cesarean section, general anaesthesia was induced with intravenously Propofol lipuro 5 mg/kg (Propofol %1, Abbott.) and following abdominal wall incision and offspring removal, premedicated with xylazine hydrochloride (1 mg/kg, i/v, Xylazinbio %2, İnterhas) and for general anaesthesia was used Ketamin HCl (1 mg/kg, i/v, Ketasol %10, Interhas).

Antibiotic treatment was performed with combination of Amoxicillin+Clavulanic Acid 8.75 mg/kg (Synulox 50 mg, Zoetis) and Spiramycin+Metronidazole 23 mg/kg (Spiramet, Bavet) for 5 days and were treated with Meloxicam (Bavet Meloxicam, Bavet) at a dose of 0.2 mg/kg for 3 days postoperatively.

DISCUSSION

Vaginal prolapse has been reported in actually all domestic species (Alan et al. 2007). True vaginal prolapse is very rare condition in bitch when compared to other vaginal pathologies like vaginal tumors or urethral tumors which protrude into vagina and obstruct the canal (Nak et al. 2012). Johnston et al. reported that vaginal prolapse occur generally during follicular phase of the oestrus cycle. However, true vaginal prolapse mainly occurs during parturition or shortly after (Okkens 2001) or dystocia (Alan et al. 2007). Excess ante-partum relaxation of pelvic tissues and increased intra-abdominal pressure may be the aetiology of pre-partum prolapse (Markandeya et al. 2012). In the present case, extreme tenesmus due to distocia may have predisposed to the partial initially vaginal prolapse.

In studies have reported the vaginal prolapse cases at different degrees due to follicular phase of the sexual cycle (Johnston 1989), normal pregnancy and in pre-partum period (Markandeya et al. 2012), dystocia (Alan et al. 2007), estrogen hormone used to stimulate oestrus (Sarrafzadeh-Rezaei et al. 2008). In the present report is the first clinical observation the vaginal prolapse case at different grades as a result both of dystocia and of Oxytocin +Ca used to induction parturition.

Steroid hormones (progesterone and estrogen) play an important role in the during pregnancy and onset of birth by continuous regulation of myometrial stimulability and contractility. Estrogen hormone concentrations are 1.9 pg/ml in during the first week of pregnancy, 2.14 pg/ml in the last third of pregnancy (Veiga et al. 2009), at the level of 6.93 pg/ml during the last week of pregnancy (Kurt et al. 2019). starts to increase in the last days of pregnancy (Johnston et al. 2001). Thus, estrogen increases uterine sensitivity to oxytocin progressively during pregnancy (Veiga et al. 2009).

Vaginal prolapse have been reported to occur at near term of parturition, when the serum estrogen concentration is high and the progesterone level is low (Alan et al. 2007; Ankit et al. 2017). In this present case, serum progesterone level was low and estrogen level were still high (1.79 ng/mL and 5 pg/mL) on postnatal 4th day, respectively. This may be explained by the synergistic effect of oxytocin+estrogen hormone as a result of Oxytocin+Ca injections.

As a result, exogen Oxytocin+Ca combinations, which is used to induce parturition in bitch, may play a role in the etiology of true vaginal prolapse and this combinations should be applied carefully in cases such as vaginal prolapse.

Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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