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Olgu Sunumu / Case Report

Effect of vaginal fold prolapse occurrence in a pregnant bitch on parturition process

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ABSTRACT:

Vaginal prolapse is defined as a protrusion of edematous vaginal tissue into the vaginal lumen and often through the vulvar lips of the bitches. Vaginal prolapse is frequently related to the increase in plasma estrogen level during the proestrus, estrus period and at the end of the pregnancy. In the pregnant bitches, however, vaginal prolapse is a rare condition. The objective of this case was to determine the effect vaginal fold prolapse events occurred during the last period of pregnancy on parturition. This article describes a 1-year-old Dogo Argentino bitch, weighing 29kg, presented due to vaginal prolapse which occurred during the last trimester of pregnancy. On clinical examination, the case was diagnosed as vaginal fold prolapse with about diameter of 50mm. Transabdominal ultrasonography was performed to evaluate the bitch's pregnancy status and revealed live fetuses in the uterus. The bitch and fetuses were healthy in performed examinations. And then the vaginal mass was cleaned and placed into normal position. Blood samples were taken for hematological tests. The results of complete blood count were within normal range. Serum estradiol and progesterone levels were 6.93 pg/ml and 23.27 ng/ml, respectively. Parturition was started spontaneously 58 days after mating and a healthy puppy was born. Unborn puppies were detected and C-section was performed. Seven live puppies were removed from the uterus. In conclusion; it was determined that the vaginal fold prolapse event that occurred during the last period of pregnancy was no effect to start of parturition. And also, it was concluded that monitoring of the parturition process would be beneficial for the health of the mother and the puppies.

Anahtar Sözcükler:

Fetus

Gebelik

Köpek

Prolapsus vajina

Gebe bir köpekte meydana gelen vajinal doku prolapsusunun doğum sürecine etkisi

ÖZET:

Prolapsus vajina ödemli vajina dokusunun vajina lumeninde ve çoğunlukla da vulva dudakları arasında görülmesi olarak tanımlanmaktadır. Köpeklerde prolapsus vajina olgusu genellikle proöstrus ile östrus dönemlerinde ve gebeliğin sonuna doğru plazma östrojen düzeyinin yükselmesi ile ilişkilidir. Prolapsus vajina gebe köpeklerde nadir olarak görülmektedir. Sunulan çalışmanın amacı gebeliğin son döneminde meydana gelen vajinal doku prolapsusunun doğum sürecine etkisini araştırmaktır. Çalışmanın materyalini gebeliğinin son döneminde prolapsus vajina şikayeti ile getirilen 1 yaşlı, 29 kg ağırlığındaki Dogo Argentino ırkı bir köpek oluşturdu. Klinik muayeneler sonucunda olgu vajinal katların prolapsusu olarak teşhis edildi. Transabdominal ultrasonografi uygulaması ile yapılan gebelik muayenesi sonucunda canlı ve sağlıklı fetüsler tespit edildi. Muayenelerden sonra vajinal kitle temizlenerek ret edildi. Hematolojik testler için kan örnekleri alındı. Tam kan sayımı sonuçları normal sınırlardaydı. Serum östrojen ve progesteron düzeyi sırasıyla 6.93 pg/ml ve 23.27 ng/ml olarak ölçüldü. Doğum spontan olarak başladı ve bir canlı yavru doğdu. Daha sonra doğmayan 7 yavru sezaryen operasyonu ile alındı. Sonuç olarak; gebeliğin son döneminde meydana gelen prolapsus vajina olgusunun doğumun başlaması üzerine bir etkisinin olmadığı anlaşılmıştır. Ancak bu tür olgularda anne ve yavruların sağlığı için doğum sürecinin takip edilmesi gerekli görülmüştür.

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1. Introduction

Vaginal prolapse is defined as a protrusion of edematous vaginal tissue into the vaginal lumen and often through the vulvar lips of the bitch (1). Although it can be seen in bitch of all breeds and ages, there is a predisposition to young bitches (2, 10). And also, a hereditary predisposition has been reported because of more occurrence for vaginal prolapse in brachycephalic breeds (12). Although the incidence of vaginal prolapse in bitch is not known precisely, studies have reported that 8-12% of all vagina prolapse cases are occurred in periparturient, 73-86% in proestrus and estrus, rarely in diestrus (6). Vaginal prolapse is related to the increase in plasma estrogen level during proestrus and estrus stages of the sexual cycle (9) and in the last week of pregnancy (4) whereas the other causes are commonly physical trauma and intraabdominal pressure increase (9). On the side, it has been described in three stage classification schemes according to the degree of the vaginal fold prolapse in bitches (6). In bitches with type I prolapse the vaginal mass located in the base of the vagina behind the urethral opening. And in type I is not protrusion of the vaginal tissue through the vulvar lips. In bitches with type II prolapse edematous the vagina wall is visible through the vulvar labia (1). In bitches with type III prolapse the vaginal wall is fully eversion and is visible the entire circumference of the vaginal mucosa in outside of vulva lips (3). The objective of this case was to determine the effect of type II vaginal fold prolapse events occurred on the 50th days of pregnancy on parturition.

2. Case Description

The material of this case presentation was a bitch that 1-year- old Dogo Argentino and weighs of 29kg. The bitch was presented due to protruded mass from vagina to Clinic of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Ankara University. As an anamnesis, the owner reported that the bitch was mated about 50 days ago, general condition was good and a protruded mass through the vulvar opening was seen 4 days ago. On physical examination, the pulse rate, rectal temperature, and respiratory rate of the bitch were within normal ranges. And then, an examination of the vaginal mass was performed and vaginal discharge or bleeding was not observed. The case was diagnosed as type II vaginal fold prolapse (Figure 1).



Figure 1: Mass of vaginal fold prolapse in the patient.

Şekil 1: Hastada vaginal doku prolapsusu.

Complete blood count, serum estrogen and serum progesterone were measured. After these procedures, transabdominal ultrasonography was performed to evaluate the bitch's pregnancy status and revealed live fetuses in the uterus. After confirming the pregnancy with ultrasonographic examination, the gestational age was confirmed by measuring the distance between head and tail (fetometry). To assess fetal distress, fetal heart rates were measured. Fetal heart rates were found around 233-256 beats per minute. It was determined that the fetuses were healthy according to evaluation of the number of fetal heartbeats, fetal movements and fetal fluids. And then, the vaginal mass was cleaned with warm saline and after antibiotic cream was applied, the mass backed into its normal place. After these procedures, it was decided to monitor the pregnancy and parturition period of the bitch. The owner of the patient was informed about repositioning of the vaginal fold prolapse and recommended to be checked every three days until parturition. Result of complete blood count was shown in Table 1. Depending on the results, the number of erythrocytes, leukocytes, hemoglobin and platelets in the bitch were normal range (Table 1).

Table 1: The results of complete blood count analysis.

Tablo 1: Tam kan sayımı analizinin sonuçları.

Parameter (Unit)	Results	Reference
WBC ($10^9/l$)	15.9	6.0- 17.0
LYM $10^9/l$	1.5	0.9- 5.0
MONO $10^9/l$	0.5	0.3- 2.5
NEUT $10^9/l$	12.8	3.5- 12
EOS $10^9/l$	1.1	0.1- 19.0
LYM %	9.6	12.0- 30.0
MON %	3.0	2.0- 13.0
NEU %	80.6	35.0- 70.0
EOS %	6.8	0.1- 19.0
RBC $10^{12}/l$	5.67	5.50- 8.50
HGB g/dl	13.9	12.0- 18.0
HCT %	38.4	37.0- 55.0
MCV fl	67.7	60- 72.0
MCH pg	24.6	19.5- 25.5
MCHC g/dl	36.3	32.0- 38.5
RDW _a fl	34.3	35.0- 53.0
RDW %	13.2	12.0- 17.5
PLT $10^9/l$	391	200- 500
MPV fl	9.2	5.5- 10.5

Serum estradiol and progesterone levels were 6.93 pg/ml and 23.27 ng/ml, respectively. Vaginal fold prolapse was relapse three days later from the treatment, however, the bitch and fetuses were healthy. In the second examination, the fetal heart rates ranged from 200 to 209/min, and the rectal temperature was measured as 37.6 °C. Parturition started spontaneously three days after the second examination. A healthy puppy was born. No other pup was delivered up to 7 h after the delivery of the first puppy. So, it was decided to intervene at parturition. For this purpose, firstly to evaluate the fetal distress status was examined with ultrasonography. Fetal heart rates were measured and found around 190 in minute and the rectal temperature of the bitch was measured as 37.3 °C. After the examinations, C-section was performed and 7 alive puppies, weighing about 200 g, were removed from the uterus (Figure 2).



Figure 2: Removed puppies with C-section
Şekil 2: Sezaryen operasyonu ile çıkarılan yavrular

3. Discussion and Conclusion

Vaginal prolapse is a rather uncommon condition in pregnant bitches and many factors play role in its formation (6), and usually occurs in young bitches during the proestrus or estrus phase when blood estrogen levels are high (7, 12). And also, vaginal prolapse may occur near parturition as the serum progesterone concentration declines and the serum estrogen concentration increases (5). Vaginal prolapse occurs less commonly in diestrus, and during the first weeks of pregnancy. Blood estrogen levels in bitch are 50-100 pg/ml in late proestrus and at the beginning of the estrus phase, (<5 pg/ml) basal levels in diestrus and anoestrus stages (7), 1.9 pg/ml in during the first week of pregnancy and 2.14 pg/ml in the last third of pregnancy (11). In the last days of pregnancy, the serum estrogen concentration starts to increase (4), reaching the level of 20-30 pg/ml and it plays an active role in the beginning of the parturition (8). In our case, it was thought that the vaginal fold prolapse was shaped by the increase in serum estrogen concentration during the last week of pregnancy because the estrogen concentration was at the level of 6.93 pg/ml. In the bitches, however, vaginal prolapse is a rare condition, which may occur during or shortly before parturition (6) as the result of the increase of serum estrogen concentration (4). Findings of this case also support to this knowledge. As another important point, it was monitored that the parturition process and how it would proceed. The parturition started spontaneously but did not continue after born of a puppy. Because no puppies were seen in the birth canal in C-section, it was thought that vaginal prolapse had no effect on continued parturition in this case. It was recommended to follow the parturition process for the health of puppies and bitch in such cases.

In summary; it was determined that the vaginal fold prolapse (about diameter 50mm) events that occurred during the last period of pregnancy was no effect on start of parturition. And also, it was concluded that monitoring of the normal parturition process in bitches with vaginal fold prolapse in the last trimester of pregnancy would be beneficial for the health of the mother and the puppies.

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