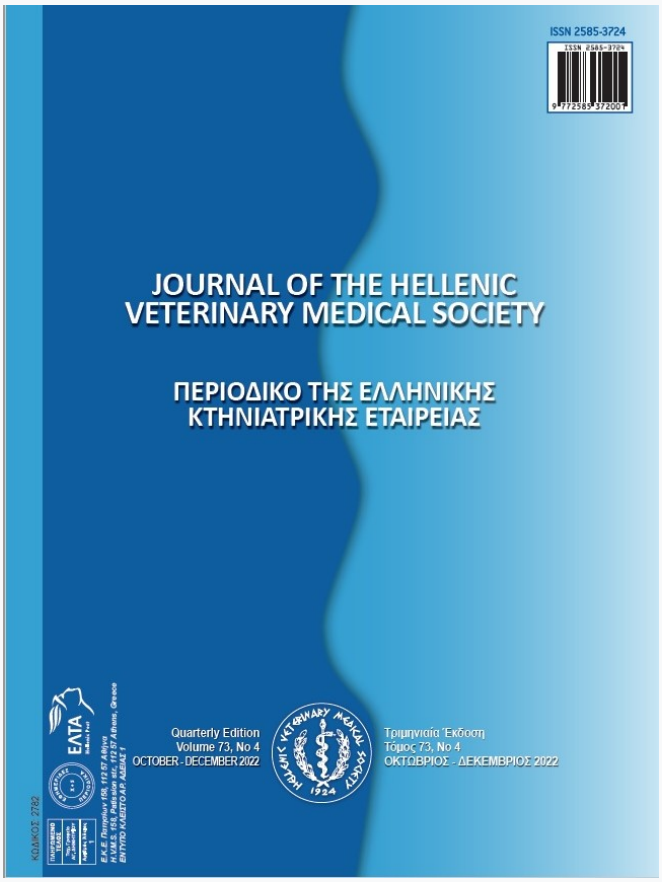
Περιοδικό της Ελληνικής Κτηνιατρικής Εταιρείας

Τόμ. 73, Αρ. 4 (2022)



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doi: 10.12681/jhvms.28261

Βιβλιογραφική αναφορά:

Yilmaz, Ö, Biçici, Ö, & Karakaya-Bilen, E. (2023). Rupture of the Prepubic Tendon in a Quadruplet Pregnant Romanov Ewe. *Περιοδικό της Ελληνικής Κτηνιατρικής Εταιρείας*, *73*(4), 5079–5082. https://doi.org/10.12681/jhvms.28261

J HELLENIC VET MED SOC 2022, 73 (4): 5079-5082
ΠΕΚΕ 2022, 73 (4): 5079-5082

Case report
Κλινικό περιστατικό

Rupture of the Prepubic Tendon in a Quadruplet Pregnant Romanov Ewe

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ABSTRACT: A case of prepubic tendon rupture in a Romanov ewe in which four live lambs were delivered by Cesarean section is presented. A three-year-old ewe, on the 142±3 days of the second gestation was brought to the Siirt University Animal Health Application and Research Center with sudden downward distension of the abdomen during the last one day. When the ewe was examined, reduced movement or hesitancy to move, mild depression, tachycardia, tachypnea and peculiar abdominal enlargement on the left side more than the right side were observed. As this case was detected early the general condition was not so bad and clinical examination revealed that swelling was non-painful and non-edematous. Ultrasonography was performed to detect the viability of the fetuses, and to eliminate the possibility of a hernia of the abdominal muscles. Based on anamnesis, abdominal palpation, and clinical examination, this case led to the diagnosis of prepubic tendon rupture. The prognosis of saving the lives of ewe and fetuses depends on successfully handling all aspects of the case in the last period of pregnancy. **Although it is not possible to repair the abdominal integrity surgically in cases of prepubic tendon rupture in the ewe, a planned cesarean operation has led to an increase the survival rates of both ewe and lambs.**

Keywords: Pregnancy, prepubic tendon, rupture, Romanov ewe

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Date of initial submission: 14-10-2021
Date of acceptance: 04-04-2022

INTRODUCTION

The prepubic tendon is the insertion tendon of the abdominal muscles and linea alba. It helps the abdominal muscles to contract, at the same time, it has an active role in urination, defecation, and delivery (Habel and Budras, 1992). Prepubic tendon rupture, which is seen in different animals but most commonly in mares, is infrequently in sheep and cows due to an additional attachment of the prepubic tendon. Although the etiology of this condition is not known precisely, hydroallantosis, pregnancy traumas, multiple pregnancy and fetal gigantism are generally included in the literature as a cause (Youngquist, 1986; Roberts, 1986; Aleem et al., 2010). Prepubic tendon rupture is an important obstetric clinical case because of which dystocia is induced (Gyan et al., 2014). Among the most typical clinical signs, there is the presence of an excessively saggy abdomen, resulting in reduced movements of the animal (Aleem et al., 2010; Gyan et al., 2014; Conceição, 2020). For this reason, it is difficult to distinguish prepubic tendon rupture from abdominal muscle tears and hernias. Differential diagnoses can be made according to clinical examination and abdominal ultrasonography. The case present here reports that four live lambs were obtained from a Romanov ewe with prepubic tendon rupture by evaluating the clinical data correctly.

CASE HISTORY

A pregnant 3-year-old Romanov ewe was brought to the Siirt University Animal Health Application and Research Center with a history of excessive downward sagging of the abdominal region in one day. Based on the anamnesis, the ewe was in the last week of pregnancy andhad no previous history of trauma. The enlargement of the abdomen on the left side was more sagging than on the right side which was causing asymmetry, reluctance to walk, mild depression, tachycardia, and tachypnea (Figure 1). In addition, there was no critical problem in vital parameters revealed with clinical examinations. The abdominal hernia was suspected as a result of clinical appearance and anamnesis. However, the hernia hole could not be detected while determining the viability of the fetuses via abdominal ultrasonography (SIUI Apogee 2100V, Rusia). A gynecologic exam was done to evaluate the parturition situation. While the vulva looked slightly enlarged and edematous, the cervix was found to be closed. There was also udder development and colostrum production.However, the incomplete gestation period and general clinical findings showed that labor had not started.No symptoms related to abdominal hernia were detected neither on clinical examination nor on ultrasound examination, thus, we inferred that prepubic tendon rupture can be formed due to the heavy nature of the uterus as a result of multiple pregnancies.

The ewe was under intense observation for appetite, respiratory rate, temperature, abdominal ultrasonography was performed twice a day to determine the condition of the fetuses. It was decided to perform a cesarean operation two days after the observation due to loss of appetite, difficulty in movement and difficulty in breathing. Intravenous 5% dextrose was started as supportive therapy. A single dose of glucocorticoid 16 mg/kg (Vetakort®, Vetaş, Turkey) was administered in order to support the lung development

Figure 1. Clinical appearance of the pregnant Romanov ewe in this case

Figure 2. View of Romanov ewe after cesarean operation.

of fetuses one day before caesarean operation. Operation line was chosen as in Figure 2 to reach the uterus easily. Prilocaine HCL (Citanest® %2, Eczacıbaşı, Turkey) was applied for local anesthesia. The cesarean operation was performed under standard aseptic conditions and revealed the presence of four fetuses. Doxapram HCl 5 mg/kg (Doxaprol®, Provet, Turkey) was administered subcutaneously to support the respiration of lambs. The birth weights of lambs were 1.970, 1.890, 1.750, 1.690 kg and their teeth were missing and their eyes were not opened which means that they were not fully developed. Ewe and lambs were followed up for 10 days at the Animal Application and Research Center. In the postoperative treatment of ewe, amoxicillin-clavulanic acid (Clavon®, Provet, Turkey) was administered intramuscularly at the dose of 15 mg/kg for 5 days and Meloxicam (Meloxicam®, Bavet, Turkey) was administered at the dose of 2.2 mg/kg subcutaneously for 3 days. As a result of daily follow-up, ewe and lambs recovered smoothly. Lambs were fed breast milk and formula. The eyes of the lambs were wiped three times a day with acid boric. One week later, the weight of lambs was measured as 2.730, 2.620, 2.320, 1.950 kg, respectively. With proper care and management, sheep and lambs were discharged in good health ten days later.

DISCUSSION

Rupture of the prepubic tendon causes loss of ventral girdle support of the animal's abdomen (Habel and Budras, 1992). The inclination of the prepubic tendon and the angle it creates with the pelvic floor is clinically important in obstetric cases (Getty,1975). Hydroallantois, traumas, multiple pregnancy, and fetal gigantism are generally reported in the literature as a cause of prepubic tendon rupture in different animal species (Habel and Budras, 1992; Al-Aniand-Khamas,2016; Monteiro, 2018). It has been claimed that Shami goats become more predisposed to prepubic tendon rupture compared to other small ruminant species and breeds due to their multiple pregnancies ability, high birth weight, and dairy characteristic (Al-AniandKhamas, 2016). Trauma due to unexpected dangerous behaviors such as abrupt movements, horning, and kicking can lead to abdominal hernias, prepubic tendon rupture, or fatal emergencies in the pregnant ewe. Although Romanov ewe have multiple birth abilities and their high mobility makes them predisposed to traumas, there is no case of prepubic tendon rupture that has been reported in this breed until now.

Prepubic tendon rupture should be considered in case of abdominal sagging which causes reluctance to walk, pelvic asymmetry, tachycardia and tachypnea in sheep in the last period of pregnancy. This clinical symptom also overlaps with abdominal wall tears or hernias. Distinguishing diagnosis between prepubic tendon rupture and the hernia can be made based on anamnesis, abdominal palpation, clinical examination, and abdominal ultrasonography. In small ruminants, rupture of the prepubic tendon is more complicated because it often leads to injury to the udder due to the proximity of the udder to the ground, causing major complications if not treated immediately.

This is a more common complication in breeds with relatively high birth weights (Mavrogenis, 2006). In previous studies, severe edema and hematoma were reported in the udder due to late diagnosis (Al-Ani andKhamas, 2016; Conceição, 2018; Monteiro, 2018) of the prepubic tendon rupture. However, in this case, no udder symptoms were observed in the animal except respiratory distress, reluctance to walk, and abdominal sagging. Rupture of the prepubic tendon is an emergency condition for a pregnant animal because it is a reason for dystocia (Aleem et al., 2010). Since the contractions are insufficient due to the rupture in the prepubic tendon, it will be the best choice to decide oncesareansection as soon as possible, considering the health of the ewe and the offsprings. In this case, the caesarean section was performed with the consideration of clinical and vital symptoms of the ewe. Cesarean section revealed the presence of four live fetuses, and their general clinical status was handled carefully. Likewise, Aleem et al. (2010) described a case of prepubic tendon rupture in one Beetal goat where three live kids were removed by cesarean section.

Although reported in dogs (Smeak, 1998), there is no literature documenting the surgical repair of prepubic tendon rupture in a horse, cattle, or small ruminant. For this reason, sagging of the abdomen persisted even after the cesarean operation as in seen Figure 2. In this condition, re-breeding and pregnancy are not advisable and the owner should be advised to cull the animal.

In conclusion, prepubic tendon rupture should be considered as one of the causes of sudden sagging and enlargement in the abdominal region in the last period of pregnancy in small ruminants. Clinical evaluation is very useful and important for the survival rates of both ewe and offsprings. The present paper clearly described, for the first time in the literature, handling the case of quadruplet pregnant Romanov ewe with prepubic tendon rupture.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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