

# An Extraordinary Fetal Death: Inguinal Hernia in a Terrier Dog <sup>[1]</sup> (Sıradışı Bir Fötal Ölüm: Terrier Bir Köpekte İnguinal Herni)

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## Dear Editor,

Congenital or acquired inguinal hernias occur as a result of subcutaneous involvement of abdominal organs due to defects in the inguinal region <sup>[1,2]</sup>. The inguinal canal is anatomically open in carnivores <sup>[3]</sup>. The inguinal canal is shorter and wider in female dogs than male <sup>[4]</sup>. Young dogs have processus vaginalis in the inguinal canal. The only animal species that have processus vaginalis are female dogs. The inguinal canal extends backwards from down the processus vaginalis. Ligamentum teres uteri adheres to the distal end of this processus. In pregnancy, this ligament is stretched, causing the uterus to be drawn into the vaginal pouch and it causes hernia <sup>[3]</sup>. In addition to anatomic factors, metabolic and hormonal factors play a role in the formation of inguinal hernia. The vaginal processus dilates as the lipoidosis increases around the ligament, and the inguinal canal allows herniation <sup>[2]</sup>. Although it is not known exactly, it is mostly seen in middle-aged and non-castrated female dogs <sup>[1]</sup>. Uterus, urinary bladder, colon, omentum and spleen are also herniated into inguinal canal <sup>[1,2,4]</sup>. Pregnant uterus is mostly confined to this canal <sup>[4]</sup>. Uterus hernia is chronic <sup>[5]</sup> and usually has no clinical symptoms until pregnancy <sup>[4,6]</sup> or pyometra development <sup>[5]</sup>.

The case presented to Kafkas University, Faculty of Veterinary Science, Obstetrics and Gynecology Clinics was about a Terrier dog (age: 4 year, bw: 8 kg) brought with the complaint of swelling in the left inguinal breast. In medical history it was inquired that there was a small, droopy, non-painful bulk in inguinal region of this dog which was adopted about 6 months ago but this bulk grew rapidly in the last 20 days. The dog was found to copulate over a month ago. It was determined that the

dog had anorexia but the general condition was not yet affected. Clinical examination revealed normal body temperature, respiratory rate and pulse rate of the dog. No abnormal structure (pyometra, pregnancy, etc.) was found in the ultrasonographic examination of the abdominal region. However, pain was determined in palpation of the left inguinal breast lobe and the bulk was examined by ultrasonography. Amniotic fluid, fetus and fetal heart beats were viewed on USG. An appointment was given to perform the operation on the next day to ensure that the dog became suitable for operation conditions. However, the owner did not bring the dog on the appointment date but about a month later. In the second examination, it was determined that Amniotic fluid had decreased and there was no heart beat. The dog was immediately taken into operation. After premedication (0.04 mg/kg, Atropine sulfat, i.m., Vetas Atropine®, Vetas, Turkey), dissociative anesthesia [1-2 mg/kg, xylazine HCl (Rompun®, Bayer, Turkey), 10 mg/kg, ketamine HCl (Ketasol® 10%, Interhas, Turkey)] were applied. The patient was placed on her back and the ventral abdomen was prepared according to the standard operating conditions under aseptic conditions. From the anterior part of the left inguinal breast incision was made and the hernia sac was reached. It was seen that her left cornu was herniated. It was determined that there was no abnormal temperature and color change in this cornu. It was found that the right cornu was in the abdominal cavity, there was no pregnancy and ovario-hysterectomy was performed (*Fig. 1*). Postoperative 5-day antibiotic treatment (250 mg, i.m., I.E. Ulugay, Turkey) was applied. In the first week following the operation, the general condition of the dog was found to be good and within 2 months after the operation there was no recurrence.



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**Fig 1.** Ultrasonographic image (C) of a pregnant dog of Terrier breed brought to our clinic with complaint of left inguinal breast swelling (A-B), operative intervention (D-F,I) and findings of fetus and uterus from herniated region (G-H)

In conclusion, despite the growth of the fetus in inguinal hernia of uterine horn, the inability of the inguinal ring to expand will lead to a lack of adequate blood flow in the region and the formation of incarceration. This may lead to a reduction in the chance of survival and endanger the mother's life. Ovariohysterectomy was found to be the most appropriate treatment option in such cases.

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