Unilateral dorsal (lumbar) abdominal hernia in a cat

Z. BOZKAN TATLI*, C.G. BELLEK, E.D. AVCI, Z. BILGEN SEN, M SARIERLER

Department of Surgery, Faculty of Veterinary Medicine, Adnan Menderes University, 09016, Aydin, TURKEY

*Corresponding author: zbozkan@adu.edu.tr

SUMMARY

A 3-year-old female mix breed cat was presented with complaint of swelling on the lumbar area. Clinical examination revealed a lumbar hernia and any other abnormality was not detected as a result of the laboratory, radiographic and ultrasonographic examinations. Surgical treatment was decided. There were two small muscle tears in addition to the main hernial defect on the right lateral abdominal side and peritoneum was disrupted. After surgical debridement of limited infected areas and adhesions, the hernial defects were sutured, and then double layered polypropylene mesh was placed over the muscle sutures. Bandage around the abdomen could be removed one day after surgery relying on that the polypropylene mesh will be enough to support sutures, because the cat with bandage was very uncomfortable. To the author’s knowledge, lumbar hernia which small intestine herniated subcutaneously into the dorsal region has not been reported previously in cats and lumbar hernia should be remembered as a mass lesion of the dorsal region.

Keywords: Feline, Cat, Abdominal, Lumbar, Dorsal, Hernia

Introduction

Hernia is the protrusion of a part of organ, an organ, or organs from their anatomical cavity though a defect or anatomical hole to another place where they should not be. Classification of herniation, such as abdominal, perineal is done according to the anatomical location [5]. Also, abdominal hernias are classified according to localization of the swelling which is typical sign of herniation [1, 5]. The hernia consists of three parts as the ring, the sac, and the contents. In some cases, the swelling may be seen little far from hernial ring because of movement of the contents. Hernias can be treated conservatively or surgically depending on size of hernial ring and its' complication risk [5].

Case Histories

A 3-year-old female mix breed cat was presented with complaint of swelling on the lumbar area. According to history, the cat was bitten by a dog and the bite wounds were treated by a veterinarian 20 days ago, 2 weeks after dog attack, a swelling was noticed at the lumbar region. The swelling had a soft fluctuating consistent which resembles the intestinal hernia on palpation but there were no a palpable hernial ring or reducibility (Figure 1/A, B). Plain abdominal radiography and positive contrast peritoneography (Omnipaque 300 mgI/ml, Opakim; Turkey, at dose of 2 ml/kg BW of iohexol) revealed that swelling on dorsal region was an abdominal hernia (Figure 2/A, B). Complete blood count and chemistry

Figure 1: Preoperative photographs of the cat.
parameters (Urea, 22 mg/dl [15–32 mg/dl]; cholesterol 118 mg/dl [77–258 mg/dl]; aspartate aminotransferase, 36 U/L [12–42 U/L]; glucose, 73 mg/dl [70–120 mg/dl]; alanine aminotransferase, 32 IU/L [29–145 IU/L]; total bilirubin, 0.20 mg/dl [0.1–0.3 mg/dl]; gamma-glutamyltransferase, 1 IU/L, [0–5 IU/L]; creatinine 1.5 mg/dl [0.9–2.1 mg/dl], Amylase 774 IU/L, [496–1874 IU/L]) were in reference range (8) and operative intervention was decided. Considering the elapsed period after injury and the extremely large hernial sac passed beyond the lumbar vertebrae, an ultrasonographic examination was needed before surgical intervention to evaluate adhesion or any other abnormalities. Hair of the region was shaved for both ultrasonographic examination and surgery. Shaving probably triggered intestinal peristaltic and the hernial sac became larger and intestinal segments became visible under skin. Ultrasonography revealed no major complications or adhesions.

The hair of the operation region was shaved, the skin was cleaned and disinfected with povidone-iodine before the surgical procedure. Later, a transverse incision over the hernial sac from proximal to the distal was made. The peritoneum was disrupted and large amounts of small intestines were just below the skin (Figure 3/A). The intestines were repositioned after checking intestinal segments in terms of any pathology. There was a large hernial defect on the right lateral abdominal wall (Figure 3/B). In addition, two abdominal muscle tears were identified just ventrally and dorsally to the main hernial defect but there was no herniation through these 2 tears.

The hernia was repaired with sutures (Polyglactin 910, Surgilactin; UK) (Figure 4/A) after surgical debridement of limited infected tissues and adhesions. A double layered polypropylene mesh (2 cm x 8 cm, Heine Medizin®, Germany) was placed over the sutures, because the muscles were thought to be too weak to hold the sutures securely (Figure 4/B). The polypropylene mesh was covered with subcutaneous fat tissues, then skin were closed routinely (Figure 4/C). Cefazolin sodium (İespor; I.E.Ulagay, Turkey), intramuscularly, at 25 mg/kg dose rate was prescribed twice a day for 10 days.

A bandage around the abdomen was removed one day after surgery relying on that the polypropylene mesh will be enough to support sutures, because the cat with bandage was very uncomfortable. The cat become more active immediately after removal of the bandage and returned to her normal life within postoperative two days. When the cat does not under the supervision of the owner, Elizabethan collar were placed until the skin stitches have been removed. The cat was followed up for 6 months by phone call and any complication was not reported.

Discussion

The most common causes of traumatic abdominal hernias are traffic accident and animal bite injuries, most often involving the prepubic and paracostal area [1, 7]. In our case, the hernial ring positioned close to paracostal area was consistent with the literature, but hernial sac extending to the
lumbar area was unusual. Only one case of lumbar hernia which is kidneys herniated has been reported previously in cats [4] to the author’s knowledge. Meshes usually are used to repair full thickness muscle defects in the abdominal wall and there are several types of the meshes in terms of construction, configuration and pore size [2, 3]. In our case, a polypropylene mesh was used so as to cover the sutures for support to weak abdominal muscles after repairing the muscle tears. Cats do not tolerate large bandages [6], and mesh placement gave us the advantage of to remove the bandage as early as one day after surgery. Based on the information gathered by phone call, cat returned to her normal life within two days.

This case was considered appropriate to share because the lumbar hernia which small intestines herniated subcutaneously into the dorsal region has not been reported previously in cats to the author’s knowledge. So, the lumbar hernia should be considered as a mass lesion of the dorsal region. It is also thought that early removal of the abdominal bandage contributed to the early return to normal life of the cat.

Conflict of interest

The authors do not have any potential conflicts of interest to declare

References


