

Fatal Outcome of Retained Surgical Sponge (Gauzoma) in a Dog

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ABSTRACT

In this report, we present a case of gauzoma after ovariohysterectomy in a dog. A 2.5-year-old spayed female crossbred dog was referred to the Veterinary Teaching Hospital, Adnan Menderes University, with a seven-day history of abdominal pain, abdominal distension, vomiting, inappetence, weakness, and soft foul-smelling stool. Based on anamnesis and clinical symptoms, an abdominal mass or acute pancreatitis was suspected, radiographic and ultrasonographic findings strengthened the suspicion of an abdominal mass. Symptomatic and supportive treatment for three days did not provide any improvement. Gauzoma and localised peritonitis were finally diagnosed by the exploratory laparotomy. Unfortunately, the dog died during laparotomy. The owner noted that the dog had been ovariohysterectomized in a private clinic 1.5 years ago. In conclusion, retained surgical sponge should be considered in the differential diagnosis of bitches with abnormal mass together with abdominal pain and distension which had previously been spayed.

Keywords: dog, retained surgical sponge, post-ovariohysterectomy complication.

Bir Köpekte Unutulmuş Cerrahi Spançın (Gauzoma) Ölümcül Sonucu

ÖZ

Bu raporda bir köpekte overiyohistektomi sonrası unutulmuş cerrahi spanç (gauzoma) olgusu sunuldu. Adnan Menderes Üniversitesi Veteriner Fakültesi Uygulama ve Araştırma Hastanesi'ne, 2,5 yaşlı kısırlaştırılmış, melez ırk dişi köpek bir haftadan beri devam eden abdominal ağrı, abdominal distensiyon, kusma, iştahsızlık, güçsüzlük ve yumuşak pis kokulu dışkılama şikayeti ile getirildi. Anamnez ve klinik semptomlar temelinde abdominal bir kitle veya akut pankreatitiden şüphelenildi, radyolojik ve ultrasonografik bulgular abdominal kitle şüphesini güçlendirdi. Üç günlük semptomatik ve destekleyici tedavi, hastada herhangi bir iyileşme sağlamadı. Sonrasında deneysel laparotomi ile gauzoma ve lokal peritonitis tanısı kesinleştirildi. Malasef köpek operasyon sırasında ex oldu. Hasta sahibi, köpeğe 1,5 yıl önce özel bir klinikte overiyohistektomi yapıldığını bildirdi. Sonuç olarak, önceden overiyohistektomi uygulanmış, abdominal ağrı ve distensiyonun eşlik ettiği anormal kitleli dişi köpeklerde ayırıcı tanıda unutulmuş cerrahi spanç dikkate alınmalıdır.

Anahtar Kelimeler: köpek, unutulmuş cerrahi spanç, post-overiyohistektomi komplikasyonu

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INTRODUCTION

Retained surgical sponge (RSS), also called gossypiboma, textiloma or gauzoma, refers to a mass of cotton matrix retained in the body after an operation. It is an uncommon but potentially fatal complication in human surgery, and few reports about this complication in the veterinary literature have been provided. Although the actual incidence of this problem is unknown due to medicolegal implications, it has been reported to be one in 1000 to 1500 for abdominal surgeries in humans (Sarda et al. 2007, Deschamps and Roux 2009, Forster et al. 2011). The risk of RSS might be less in dogs than in humans because of the smaller abdominal cavity in size and shorter, less complicated surgeries (Merlo and Lamb 2000). In this content, summing up the year 2012, 40 cases of RSS in dogs have been reported in literature (Day et al. 2012). On the other hand, the incidence may be higher in veterinary medicine, because surgical procedures are less standardised (Deschamps and Roux 2009).

Although rarely reported, RSS represents a crucial problem because of life-threatening dimensions and severe medicolegal implications. Retained sponges after laparotomy may cause a broad spectrum of clinical symptoms and present a difficult diagnostic problem. Therefore, we report a case of RSS in a dog to demonstrate this infrequent but important complication of an abdominal surgery.

Case Presentation

A 2.5-year-old spayed female crossbred dog was referred to the Veterinary Teaching Hospital, Adnan Menderes University, with a seven-day history of severe abdominal pain, febris intermittent, vomiting, anorexia, weakness, and soft foul-smelling stool. One week before the presentation, attempt to treat the dog for exocrine pancreatic insufficiency in a private clinic was unsuccessful. On referral, physical examination revealed that the dog is alert and responsive. She had a rectal temperature of 39.2 °C, painful cranial abdomen, and suspicion of abdominal mass by palpation. Complete blood count and serum biochemical analysis were within normal limits. Based on history and the clinical and radiographical findings (Figure 1), acute pancreatitis and/or an abdominal tumour were suspected and symptomatic and supportive treatments were carried out for three days. The control physical and radiographical examination showed no improvement in the findings of the dog. Abdominal ultrasonography also exhibited a round mass with fluid echogenicity between intestines (Figure 2). The patient with

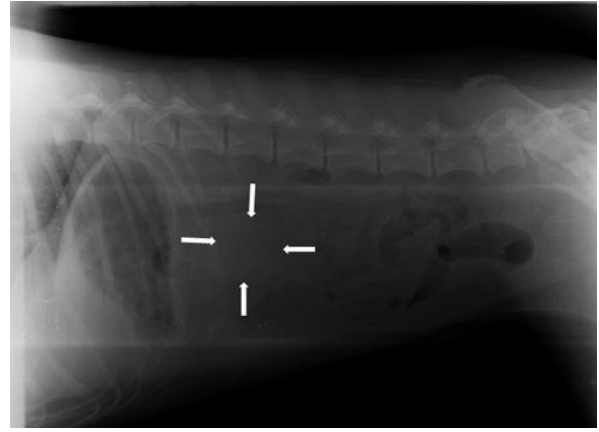


Figure 1: Radiographic image of intra-abdominal mass (gauzoma)

Resim 1: Abdominal kitlenin (gauzoma) radyografik görüntüsü



Figure 2: Ultrasonographic image of intraabdominal mass (gauzoma)

Resim 2: Abdominal kitlenin (gauzoma) ultrasonografik görüntüsü

suspected intraabdominal mass was referred to exploratory laparotomy.

Median laparotomy was performed under inhalation anaesthesia. During incision of the linea alba, a small amount of serofibrinous abdominal fluid was seen. Hyperaemia was observed on the mesenteries and serosa of the intestines. Adhesions that particularly intense between the jejunum and the caecum were determined. During the separation of adhesions by blunt dissection, a formation with the oval shape and 6 cm diameter which was well-circumscribed was noticed between the jejunum and the caecum. When the cross-section of the formation was examined, the gauze fragments and purulent liquid were identified (Figure 3). A gauzoma and localised peritonitis were finally diagnosed. Unfortunately, the dog died in the course of exploratory laparotomy.

Histopathology revealed the foreign body reaction related to the retained gauze sponge. The mesenteric mass was surrounded by thick fibrous hyalinised capsule from the outside.



Figure 3: Intraoperative image of abdominal mass (gauzoma): The gauze fragments and purulent liquid in cross-section of the mass.

Resim 3: Abdominal kitlenin operasyon sırasındaki görüntüsü (gauzoma): Kitlenin kesit yüzünde görülen gazlı bez parçaları ve purulent içerik.

Plenty of hemosiderin-loaded macrophages, leukocyte infiltration and foreign body giant cells associated with foreign body granulation tissue were observed on the inner wall of the pouch. In the same areas, fibrils which appear to be related to gauze were determined as freelance or in foreign body giant cells (Figure 4).

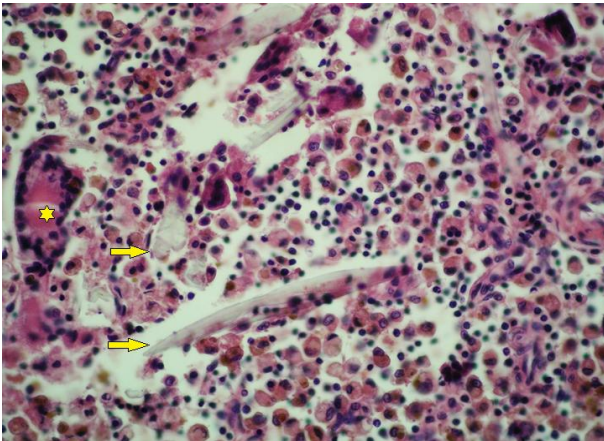


Figure 4: Histopathology of intra-abdominal mass (gauzoma), foreign body granuloma: Intense lymphocyte and macrophage infiltration, refractile sponge material (arrows), foreign body giant cell (asterisk). H.E. x 200.

Resim 4: Abdominal kitlenin histopatolojik kesiti, yabancı cisim granülasyon dokusu: Yoğun makrofaj ve lenfosit infiltrasyonu, gazlı bez parçaları (oklar), yabancı cisim dev hücresi (yıldız). H.E. x 200.

DISCUSSION AND CONCLUSION

Retained surgical sponges following intra-abdominal surgery represent a continuing problem in both humans and animals. Intra-abdominal RSS made of cellulose fibers may incite an inflammatory reaction due to their lack of inertness and inability to disintegrate, resulting in either an aseptic granulomatous encapsulation or in exudative response of surrounding tissue leading to abscess

formation, sepsis and super infection (Forster et al. 2011). In contrast to humans, RSS in dogs is associated with the infective, exudative form of foreign body granuloma, resulting in clinical signs that appear within months after surgery (Tsioli et al. 2004, Forster et al. 2011). The case presented here was evaluated as exudative form of foreign body granuloma on the basis of laparotomy and histopathology. The elapsed time between surgery and diagnosis ranges from 4 days to 38 months (Merlo and Lamb 2000, Forster et al. 2011). In this case, the gauzoma was diagnosed 1.5 years after ovariectomy.

Considering the reported 40 RSS cases in dogs (Day et al. 2012), sponges were most commonly left in the abdomen (81%) and most commonly following ovariectomy (57%). Also in the current report, the sponge was left in the abdomen and likely to have been retained at ovariectomy.

As in human cases, the clinical signs associated with an RSS are inconsistent, nonspecific, often subjective, and sometimes even non-existent; such conditions make the diagnosis of intra-abdominal RSS difficult in dogs (Deschamps and Roux 2009, Day et al. 2012). The most common clinical signs described in dogs with intra-abdominal RSS include fistule formation with the skin, a palpable mass, abdominal pain, vomiting, weight loss, lethargy, diarrhoea, abdominal distension, fever and anorexia (Deschamps and Roux 2009, Day et al. 2012). The clinical signs of this case were consistent with those reported in 40 dogs with RSS, except for fistule formation with the skin. Conversely, haematological and serum biochemical changes described in dogs with intra-abdominal RSS (Merlo and Lamb 2000, Tsioli et al. 2004, Day et al. 2012) were not observed in our case. Similar to the clinical signs, the imaging findings does not lead to the definitive diagnosis of intra-abdominal RSS because of a lack of knowledge of typical imaging view (Tsioli et al. 2004, Forster et al. 2011). It is noted in most veterinary and human cases, with only approximately 22% of veterinary and 30 to 50% of human patients being correctly diagnosed before exploratory surgery (Day et al. 2012). Also in our case, intra-abdominal mass, namely a neoplasia or an inflammatory lesion, was suspected by the clinical and imaging findings, and exploratory laparotomy provided the correct diagnosis.

Prognosis in dogs with intra-abdominal RSS depends on the surgical management, organ affected, complications and patient debilitation (Day et al. 2012). A combination of the factors that affect prognosis may be responsible for the death of the dog presented during laparotomy.

In conclusion, when a history of previous ovariectomy or other intra-abdominal operations are presented, gauzoma should be considered in the differential diagnosis of a bitch with an intra-abdominal mass. Surgeons should always make best efforts to prevent gauzoma by being very careful about risk factors leading to this disorder.

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