ERCİYES ÜNİVERSİTESİ VETERİNER FAKÜLTESİ DERGİSİ
Journal of Faculty of Veterinary Medicine, Erciyes University

Olgu Sunumu / Case Report
13(1), 70 - 74, 2016

The Extrahepatic Cholestasis due to Pancreatic Tumor in a Terrier Breed Dog: Case Report

Ali Evren HAYDARDEDEOĞLU[1], Hadi ALİHOSSEİNİ[2], Ekrem Çağatay ÇOLAKOĞLU[2], Ahmet BAYDIN[2]

[1]Aksaray University, Faculty of Veterinary Medicine, Department of Internal Medicine, Aksaray-TURKEY
[2]Ankara University, Faculty of Veterinary Medicine, Department of Internal Medicine, Ankara-TURKEY

Summary: A-10 year-old, intact female terrier breed dog referred to Veterinary Teaching Hospital with the complaints of anorexia and constipation. The mastectomy operation had been obtained 3 years ago accorrding to owner's information. Clinical and ultrasonographic assessments confirmed the hepatic cholestasis. Medical management with Cefazolin, enrofloxacin, ursodeoxycholic acid, and fluid therapy were initiated. The dog has referred back a month later with the complaints of abrupt anorexia and icterus. Routine blood tests and control ultrasonography confirmed severe cholestasis and enlarged gall bladder without mass. Experimental laparotomy revealed pancreatic tumor compressing bile ducts. Total tumor resection and choleduedonostomy performed. Pancreatic ductal adencarcinoma was proved by the histopathologic examination of the samples. According to owner's unwilling to chemotherapy and post-operative treatment, dog was euthanized. In this case report; neoplastic mass possibility in dogs with severe cholestasis must be taken into consideration.

Key words: Choleduedenostomy, dog, pancreatic ductal adenocarcinom

Terrier Irkı Bir Köpekte Pankreatik Tümöre Bağlı Ekstrahepatik Kolestazis: Olgu Sunumu

Özet: Bu olgunun materyalini Veteriner Eğitim Hastanesine getirilen 10 yaşlı dişi Terrier ırkı bir köpek oluşturdu. Anamnezde; hastada anoreksi, konstipasyon varlığı ve 3 yıl önce mastektomi operasyonu geçirdiği bilgisi alındı. Klinik ve ultrasonografik değerlendirmeler hepatik kolestazı doğruladı. İki hafta süreli; Sefazolin, Enrofloksasin, Ursodeoksikolik asit ve destekleyici sıvı sağaltımı ile tedaviye başlandı. Bir ay sonra hasta, ani başlayan anoreksi ve sarılık şikayetleriyle tekrar hastaneye başvurdu. Rutin kan analizleri ve ultrasonografi ile şiddetli kolestazis ve safra kesesinde genişleme belirlendi. Deneysel laparotomi ile safra kanallarına bası yapan pankreatik tümör tespit edildi. Total tümör rezeksiyonu ve koleduedenostomi uygulandı.
Histopatolojik değerlendirmeler ile pankreatik duktal adenokarsinom belirlendi. Kemoterapi ve post-operatif tedaviye onay verilmemesi sonucu hasta ötenazi yapıldı. Bu olgu sunumuyla; şiddetli kolestazisi bulunan köpeklerde neoplastik kitle ihtimalinin göz ardı edilmemesinin önemi vurgulanmıştır.

Anahtar Kelimeler: Koleduedenostomi, köpek, pankreatik duktal adenokarsinom,

Introduction

Pancreatic ductal adenocarcinoma (PDAC) is one of the most aggressive tumor associated with high mortality (1). The cause of pancreatic neoplasm is not known in dogs. An estimated rate of pancreatic carcinoma in dogs has reported as 17.8 (2). Primary pancreatic adenocarcinomas are derived from acinar cells or ducts. Pancreatic carcinomas commonly invade the stomach, duodenum, liver, lungs and peritoneal surface. If the neoplasms block the common bile duct, progressive tumor necrosis may cause the biliary flow obstruction led to pancreatic atrophy, pancreatitis or exocrine pancreatic insufficiency. Clinical signs include the non-specific complaints of anorexia, lethargy, vomiting, diarrhea, abdominal pain and icterus (3). This case report indicates not to forget possibility of neoplastic mass in dogs having severe cholestasis

Geliş Tarihi / Submission Date : 07.08.2014
Kabul Tarihi / Accepted Date : 10.02.2015
*This case report was presented as poster in the 4th TSAVA congress, 2009-Istanbul, Turkey.

and, the importance of curative and medical management of pancreatic ductal adenocarcinoma.

Case History

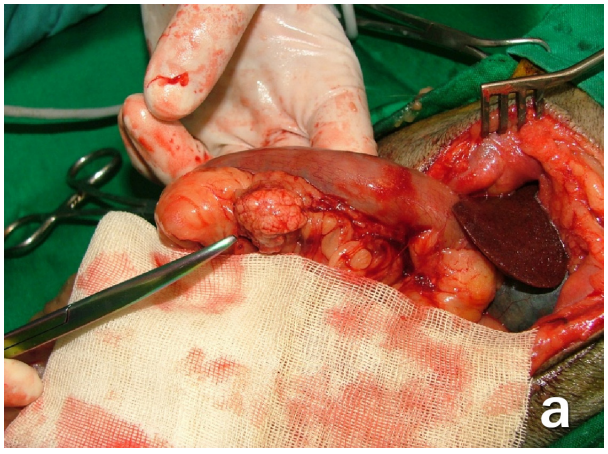
A-10 year-old, female terrier breed dog referred to Veterinary Teaching Hospital with the complaints of anorexia, constipation and hypodipsia for a week. The mastectomy operation had been obtained 3 years ago accorrding to owner's information. Clinical examination revealed severe abdominal distress and pain in right abdominal region. The routine blood tests were in normal ranges. Abdominal ultrasonography confirmed severe cholestasis with biliary sludge, enlarged gall bladder and distended bile ducts. Medical management with Cefazolin (25 mg/kg, q8, hours, iv), enrofloxacin (5mg/kg once daily s.c), ursodeoxycholic acid (10mg/kg, once daily PO) and fluid therapy for two weeks initiated.
The dog has referred back a month later with the complaints of abrupt anorexia, abdominal pain and icterus. On the basis of routine blood tests (Table 1), cholestatic icterus was diagnosed. Control ultrasonography confirmed cholestasis and severe enlarged gall bladder without mass. Experimental laparotomy (Figure 1) revealed pancreatic tumor compressing bile ducts. Total tumor resection and choleduedonostomy performed. Pancreatic ductal adencarcinoma (Figure 2a, 2b) was proved by the histopathological examination of the samples
Gross pathology; surrounding pancreatic tumors 4-5 cm in length shown a solid color change from white to gray. Tumor cells were cuboidal, and had granular apical cytoplasm, Nuclei were basal, round, and hyperchromatic, with large nucleoli and frequent mitotic figures. Additional features of cellular atypia included mild anisocytosis and nuclear pleomorphism Tumors were discontinuously bordered by fibrous connective tissue, suggestive of collapsed pancreatic interstitium. Infiltrative nests of neoplastic epithelial cells extended into the fibrous connective tissue. According to owner unwilling to chemotherapy and post-operative treatment, dog was euthanised.

Discussion

Dogs with abdominal pain often are a diagnostic and therapeutic challenge for the veterinary practitioner. Successful management of these patients requires accurate clinical assessment, diagnostic information and right treatment. Extrahepatic bile duct obstruction (EBDO) is one of the acute abdomen causes in dogs (6). The most common cause of EBDO is extraluminal obstruction from acute-on-chronic pancreatitis. Pancreatitis starts a pathologic process at the level of the common bile duct which blocks bile flow to duodenum. Despite the unusuality of the pancreatic tumors in the dogs, sometimes they cause to EBDO (6). Abdominal ultrasound does not always provide proper image of pancreas and pancreatic tumors to distinguish from the surrounding parenchyma (4). Ultrasonography – guided FNS cytology has been suggested as a useful means of the diagnosis and the differentiation of pancreatic mass (5). In this case we suspicious to the the chronic hepatic problem according to routine blood tests and hepatic enzymes. In the abdominal palpation and further ultrasonographical examination not confirmed the pancreatic mass properly. But by the exploratory laparatomy procedures confirmed possibility of neoplastic mass in dogs having severe cholestasis. The ancillary diagnostic procedures like CT-Scan or MRI suggested to the diagnosis of the pancreatic tumors in the dogs. When we look at the work done for pancreatic tumors more detailed studies in the literature in terms of this case report is important for our country.

Table 1. Routin blood work

Tests	Results	Reference Range
WBC (x10^9/l)	**30.18**	6.00-17.00
LYM (x 10^9/l)	5.39	1.00- 4.80
MONO (x 10^9/l)	0.72	0.20 -1.50
GRA (x 10^9/l)	8.47	3.00-12.00
LY (%)	53.0	12.0-30.0
MONO (%)	6.1	3.0-10.0
GR (%)	83.9	62.0- 87.0
RBC (x 10^{12}/l)	5.45	5.50-8.50
HGB (g/dl)	12.8	12.0-18.0
HCT (%)	39.78	37.00- 55.00
MCV (fl)	63	60-77
MCH (pg)	24.5	19.5- 24.5
MCHC (g/dl)	29.4	31.0-34.0
RDWc (%)	13.6	-
PLT (x 10^9/l)	549	200-500
Glu (mg/dl)	85	65- 118
Urea (mg/dl)	41	15-59.9
BUN (mg/dl)	19	5-25
SCr (mg/dl)	1.8	0.5-1.5
Total Protein (g/dl)	7.4	5.4-7.1
Albumin (g/dl)	3.2	3.1- 4.0
Total Bilirubin (mg/dl)	**30**	0.1-0.3
Direct Bilirubin (mg/dl)	**19**	-
Cholesterol (mg/dl)	**322**	100.0- 300.0
Triglycerides (mg/dl)	56	50.0-100.0
ALP (IU/L)	**3542**	20.0-156.0
ALT (IU/L)	**112**	21.0-102.0
AST (IU/L)	**96**	23.0-66.0
GGT (IU/L)	**66**	6.0-28.0
Ca (mg/dl)	10.9	9.0-11.3
Na (mMol/L)	141	140-153
K (mEq/L)	3.9	3.5-5.7
Cl (mMol/L)	107	106-118



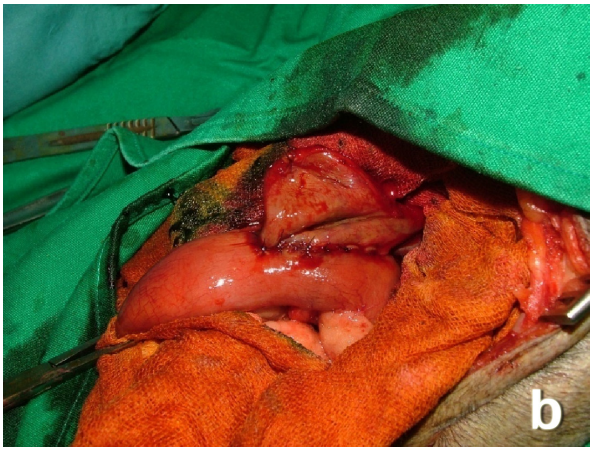
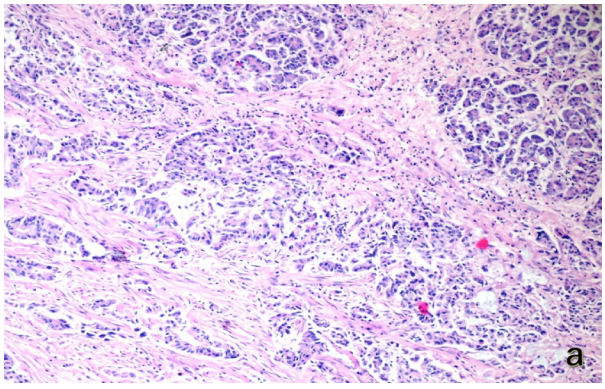


Figure 1.
a. Experimental laparotomy indicates pancreatic tumor

b. Choledueodonostomy operation



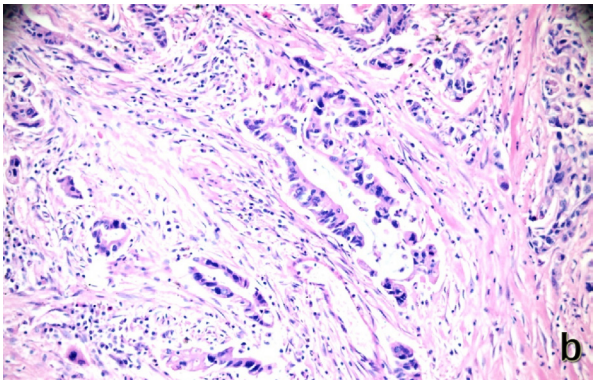


Figure 2.
a. Ductal adenocarsinoma derived from ductus (H&E, x200).

b. Glanduler structure of tumoral cells (H&E, x200).

References

1. Jemal A, Siegel R, Ward E. Cancer statistics,2006. CA Cancer J Clin 2006;56:106 30.

2. Priester WA Veterinary Medicine on Pancreatic Carcinoma in Domestic Animals Data from Eleven United States and Canadian Colleges of. Cancer Res June 1974 34; 1372.

3. Kenneth W, Diagnosis and management of Acute Pancreatitis in dog and cat Lecture Notes 2000 Cornel University, Ithaca Ny, USA http://www.dcavm.org/00oct.htm

4. Iseri T, Yamada K, Chijiwa K, Nishimura R, Matsunaga S, Fujiwara R, Sasaki N. Dynamic computed tomography of the pancreas in normal dogs and in a dog with pancreatic insulinoma. Vet Radiol Ultrasound 2007; 48(4):328-31.

5. Silke H, Sonographic Evaluation of the Normal and Abnormal Pancreas DACVR, DECVDI, George Henry Volume, Ultrasound 22, Issue 3, August 2007, 115–21

6. Bunnett PF et al: Ultrasonographic and histopathological diagnosis of exocrine pancreatric carcinoma in the dog and cat, J Am Anim Hosp Assoc 37: 466,2001

Acknowledgments The authors would like to thank Hasan Basri SENER for performing the pathological examinations and finalizing the diagnosis in this case. Special thanks also go to Ateş BARUT and Oğuz KUZUCU for performing the surgery.

Correspondig Author:
Assistant Prof. Dr. Ali Evren HAYDARDEDEOGLU
Aksaray University, Faculty of Veterinary Medicine
Department of Internal Medicine
68100 Aksaray, TURKEY
E-mail: ahaydardedeoglu@aksaray.edu.tr
Phone: +90 533 224 0572