

# ADVANCES

IN SMALL ANIMAL MEDICINE AND SURGERY



WWW.ADVANCESINSMALLANIMAL.COM VOLUME 30, ISSUE 5 • MAY 2017

---

## Gastrointestinal Disease in Cats and Dogs with Gastrointestinal Foreign Bodies

ERIC LINQUIST<sup>1</sup> (DVM, DABVP)  
REMO LOBETTI<sup>2</sup> (BVSC, MMEDVET, PHD, DECVM)  
<sup>1</sup>SONOPATH SPARTA, NEW JERSEY, USA  
<sup>2</sup>BRYANSTON VETERINARY HOSPITAL, BOX 67092, BRYANSTON, SOUTH AFRICA

Foreign bodies constitute the most common cause of intestinal obstruction in small animal practice, and foreign-body-induced intestinal obstruction is a common indication for emergency laparotomy in small animals.<sup>1</sup> Gastrointestinal (GI) foreign bodies can present with a variety of clinical signs depending on the location, the degree, and the duration of the obstruction.<sup>2</sup> Gastrointestinal foreign bodies may cause complete or partial obstruction. In general, complete obstruction is associated with more severe clinical signs and a rapid deterioration, whereas partial obstruction may be associated with chronic signs of maldigestion and malabsorption.<sup>3</sup>

**FOREIGN BODIES IN DOGS**

One study of 208 cases demonstrated that certain dog breeds are predisposed to gastrointestinal obstruction by foreign body and that obstruction mostly occurs in the jejunum.<sup>4</sup> A longer duration of clinical

signs, the presence of a linear foreign body, and multiple intestinal procedures were shown to be significantly associated with increased mortality. Neither the degree of obstruction (partial or complete) nor the location of the foreign body was shown to have a significant influence on survival. An example of an ultrasound-identified foreign body is present in Figure 1.

**“Cats or dogs with a GI foreign body can have underlying primary GI disease and the presence of a foreign body may thus be an indicator of more serious underlying GI disease.”**

Although GI foreign bodies are common, there are no reports of an apparent underlying reason for the ingestion of the foreign body. One study in dogs with gastric dilatation-volvulus (GDV) syndrome looked at the possibility of preexisting gastrointestinal disease.<sup>4</sup> In that study, 23 dogs had an intestinal biopsy taken at the time of corrective surgery with 14 (61%) consistent with the presence of an underlying inflammatory bowel disease, and of these 14, 12 (86%) were accompanied with a history of prior gastrointestinal disease. That study concluded that there was a possible association between GDV and inflammatory bowel disease.

**OBSTRUCTION IN HUMANS**

In adult humans, esophageal foreign body impaction is a common problem and tends to have underlying esophageal pathology such as neoplasia, strictures, and motility disorders.<sup>5</sup> In children with food bolus impaction, there also tends to be a high rate of underlying esophageal



**Figure 1.** A proximal progressively shadowing duodenal foreign body lodged by a mural duodenal thickening with loss of mural detail.

**pathology** such as strictures, reflux esophagitis, and eosinophilic esophagitis.<sup>6</sup> The presence of esophageal inflammation may be missed during foreign body removal if biopsies are not performed, putting the patient at risk for further mucosal damage if the underlying condition is not treated.<sup>5</sup> Esophageal mucosal biopsy at the time of foreign body removal is an integral part of the diagnostic armamentarium that is often neglected. In human medicine, gastroenterologists tend to biopsy more often than surgical specialists; however, the rates are still low.<sup>5</sup>

**OBSTRUCTION IN CATS**

In 11 cats that had been diagnosed with a GI foreign body and had histopathology of the intestine done, there was an underlying diagnosis of lymphoplasmacytic

**Also In This Issue**

**Clinical Pathology, 2**  
Exocrine Pancreatic Insufficiency in Cats

**Critical Care, 3**  
Evaluation of the Safety and Tolerability of Rifaximin in Dogs

**General Practice, 4**  
Infectious Disease Risk Associated with Contaminated Propofol Anesthesia

**Neurology, 5**  
Effect of Canberry Extract on Bacteriuria in Dogs with Disk Herniation

**Oncology, 6**  
Vitamin D and Cancer Risk in Dogs

**Surgery – Soft Tissue, 7**  
Light Meal Decreases the Incidence of Gastroesophageal Reflux in Dogs

Full text of *Advances in Small Animal Medicine and Surgery* is available at [www.advancesinsmallanimal.com](http://www.advancesinsmallanimal.com)

This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the author's institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/authorsrights>

# ADVANCES

## IN SMALL ANIMAL MEDICINE AND SURGERY



WWW.ADVANCESINSMALLANIMAL.COM

VOLUME 30, ISSUE 5 • MAY 2017

### *Gastrointestinal Disease in Cats and Dogs with Gastrointestinal Foreign Bodies*

ERIC LINDQUIST<sup>1</sup> (DVM, DABVP)

REMO LOBETTI<sup>1,2</sup> (BVSC, MMEDVET, PHD, DECVIM)

<sup>1</sup>SONOPATH SPARTA, NEW JERSEY, USA

<sup>2</sup>BRYANSTON VETERINARY HOSPITAL, BOX 67092, BRYANSTON, SOUTH AFRICA

Foreign bodies constitute the most common cause of intestinal obstruction in small animal practice, and foreign-body-induced intestinal obstruction is a common indication for emergency laparotomy in small animals.<sup>1</sup> Gastrointestinal (GI) foreign bodies can present with a variety of clinical signs depending on the location, the degree, and the duration of the obstruction.<sup>2</sup> Gastrointestinal foreign bodies may cause complete or partial obstruction. In general, complete obstruction is associated with more severe clinical signs and a rapid deterioration, whereas partial obstruction may be associated with chronic signs of maldigestion and malabsorption.<sup>3</sup>

#### FOREIGN BODIES IN DOGS

One study of 208 cases demonstrated that certain dog breeds are predisposed to gastrointestinal obstruction by foreign body and that obstruction mostly occurs in the jejunum.<sup>2</sup> A longer duration of clinical

signs, the presence of a linear foreign body, and multiple intestinal procedures were shown to be significantly associated with increased mortality. Neither the degree of obstruction (partial or complete) nor the location of the foreign body was shown to have a significant influence on survival. An example of an ultrasound-identified foreign body is present in Figure 1.

***“Cats or dogs with a GI foreign body can have underlying primary GI disease and the presence of a foreign body may thus be an indicator of more serious underlying GI disease.”***

Although GI foreign bodies are common, there are no reports of an apparent underlying reason for the ingestion of the foreign body. One study in dogs with gastric dilatation-volvulus (GDV) syndrome looked at the possibility of preexisting gastrointestinal disease.<sup>4</sup> In that study, 23 dogs had an intestinal biopsy taken at the time of corrective surgery with 14 (61%) consistent with the presence of an underlying inflammatory bowel disease, and of these 14, 12 (86%) were accompanied with a history of prior gastrointestinal disease. That study concluded that there was a possible association between GDV and inflammatory bowel disease.

#### OBSTRUCTION IN HUMANS

In adult humans, esophageal foreign body impaction is a common problem and tends to have underlying esophageal pathology such as neoplasia, strictures, and motility disorders.<sup>5</sup> In children with food bolus impaction, there also tends to be a high rate of underlying esophageal

pathology such as strictures, reflux esophagitis, and eosinophilic esophagitis.<sup>6</sup> The presence of esophageal inflammation may be missed during foreign body removal if biopsies are not performed, putting the patient at risk for further mucosal damage if the underlying condition is not treated.<sup>5</sup> Esophageal mucosal biopsy at the time of foreign body removal is an integral part of the diagnostic armamentarium that is often neglected. In human medicine, gastroenterologists tend to biopsy more often than surgical specialists; however, the rates are still low.<sup>5</sup>

#### OBSTRUCTION IN CATS

In 11 cats that had been diagnosed with a GI foreign body and had histopathology of the intestine done, there was an underlying diagnosis of lymphoplasmacytic

#### Also In This Issue

##### Clinical Pathology, 2

Exocrine Pancreatic Insufficiency in Cats

##### Critical Care, 3

Evaluation of the Safety and Tolerability of Rivaroxaban in Dogs

##### General Practice, 4

Infectious Disease Risk Associated with Contaminated Propofol Anesthesia

##### Neurology, 5

Effect of Cranberry Extract on Bacteriuria in Dogs with Disk Herniation

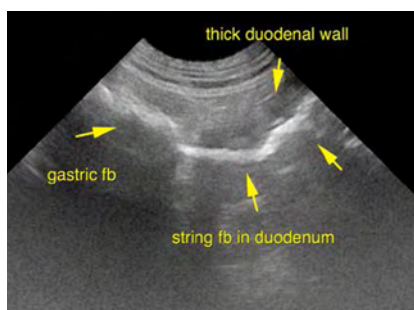
##### Oncology, 6

Vitamin D and Cancer Risk in Dogs

##### Surgery – Soft Tissue, 7

Light Meal Decreases the Incidence of Gastroesophageal Reflux in Dogs

Full text of *Advances in Small Animal Medicine and Surgery* is available at [www.advancesinsmallanimal.com](http://www.advancesinsmallanimal.com)



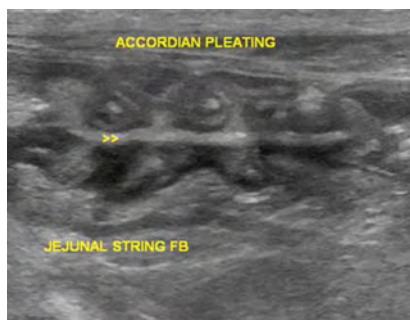
**Figure 1.** A proximal progressively shadowing duodenal foreign body lodged by a mural duodenal thickening with loss of mural detail.

enteritis in 4, intestinal lymphoma in 5, and carcinoma in 2 cats.<sup>7</sup> In 17 dogs that had been diagnosed with a GIT foreign body and had histopathology of the intestine done, there was an underlying diagnosis of lymphoplasmacytic enteritis in 7, intestinal lymphoma in 3, necrotic enteritis in 3, intestinal carcinoma in 2, and eosinophilic enteritis in 2 dogs.<sup>7</sup>

Cats or dogs with a GIT foreign body can have underlying primary GI disease and the presence of a foreign body may thus be an indicator of more serious underlying GI disease. (These foreign bodies may demonstrate varying ultrasound appearances including accordion pleating and other formations.) Therefore, in cats or dogs with a GI foreign body, biopsies of the gastrointestinal should be done at the time of surgery to ensure that any potential underlying disease is identified and correctly managed. An example of accordion pleating from string foreign body in a cat is observed in Figure 2

#### REFERENCES

1. Papazoglou LG, Patsikas MN, Papadopoulou P, et al. Intestinal obstruction due to sand in a dog. *Vet Rec* 2004;155:809.
2. Hayes G. Gastrointestinal foreign bodies in dogs and cats: A retrospective study of 208 cases. *J Small Anim Pract* 2009;50:576-583.
3. Papazoglou LG, Patsikas MN, Rallis T. Intestinal foreign bodies in dogs and cats. *Comp Cont Educ Pract Vet* 2003;25:830-843.
4. Braun L, Lester S, Kuzma AB, et al. Gastric dilatation-volvulus in the dog with histological evidence of preexisting inflammatory bowel disease: A retrospective study of 23 cases. *J Am Anim Hosp Assoc* 1996;32:287-290.
5. Williams P, Jameson S, Bishop P, et al. Esophageal foreign bodies and eosinophilic esophagitis—the need for esophageal mucosal biopsy: A 12-year survey across pediatric subspecialties. *Surg Endo* 2013;27:2216-2220.
6. Lao J, Bostwick HE, Berezin S, et al. Esophageal food impaction in children. *Pediatr Emerg Care* 2003;19:402-407.
7. Lobetti RG, Lindquist E, Frank J, et al. Primary gastrointestinal disease in cats and dogs with gastrointestinal foreign bodies: 28 Cases. 26th European College of Veterinary



**Figure 2.** Linear foreign body with accordion pleating of the jejunum in a 6-year-old cat with a recent history of gastrointestinal issues.

Internal Medicine Congress, Gothenburg, Sweden, September 2016.