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SCAN ME

Case Study: Gastrointestinal Foreign Body Diagnosis & Removal

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Introduction/ Case Report

Gastrointestinal (GI) foreign bodies occur when pets consume items that are non-digestible, and will not readily pass through their stomach or intestines. These items may be toys, leashes, string, clothing, sticks, or any other item that fails to pass, including human food products such as bones, corn cobs, nuts, or other items from the trash. When these items become lodged in the GI tract, they can cause the animal to become very sick in a variety of ways.

The problems that are caused vary with:

- How long the foreign body has been present
- The location of the foreign body
- How extensively the foreign material closes off the lumen of the GI tract (ie, Partial or complete obstruction)
- What the material is made of. Some ingested items, such as older pennies or lead material, can cause systemic toxicities, while others may cause regional damage to the intestinal tract itself due to compression or obstruction.

Gastrointestinal foreign bodies can sometimes cause holes in the tissue (or perforation). This causes spillage of intestinal contents into the abdomen. This condition quickly leads to life-threatening inflammation of the abdominal lining (peritonitis) and allows bacterial proliferation and contamination (sepsis). While some small foreign bodies will pass, many will become lodged along the gastrointestinal tract and cause discomfort and other clinical signs. Some foreign bodies located in the stomach may be retrieved with the use of an endoscope; however, many can require surgical abdominal exploration and removal. Occasionally, foreign bodies will become lodged in the esophagus at the base of the heart or at the diaphragm, which may require thoracic (chest) surgery

History

An 18-month-old, 25-kg (55-lb), female spayed English Bulldog was presented to **Boston West Veterinary Emergency & Specialty** with a 3-week history of an acute swelling to her right side (caudal thoracic and cranial abdomen area). The sudden change in the dog was not associated with any trauma, nor with a vaccine or drug administration, and the patient was previously healthy. The owner reported that the lump was quite firm, non-painful, and seemed to be outside of the ribcage. The pet received regular monthly tick and flea prevention and had no previous history of illness. She had experienced an episode of vomiting just before the development of the right-sided swelling, but then returned to eating and drinking very well. A course of amoxicillin–clavulanic acid (375mg PO q12h) had been initiated by the primary veterinarian; however, there was no improvement in the size of the swelling.

Radiographs performed by the primary veterinarian had shown some soft tissue swelling along the right thoracic and cranial abdominal body wall. A fine needle aspirate of the swelling was non-diagnostic. She was then commenced on cephalexin (500mg PO q12h) and carprofen (50mg PO q12h), and referral to a specialist veterinarian facility was recommended.

Presentation

At the time of presentation to **Boston West Veterinary Emergency & Specialty**, her physical examination revealed no abnormalities apart from the firm right-sided swelling. The patient was alert, bright, and responsive, and lymphadenopathy was not observed. No other swellings were found on the pet either. The results of a complete blood count and serum biochemical profile and a 4Dx at the primary veterinarian were unremarkable. The differential diagnoses included a type of infection (bacterial, fungal, other) or abscess; a hernia (congenital or acquired); an inflammatory lesion; a foreign body reaction; or even a neoplastic process

Diagnosis

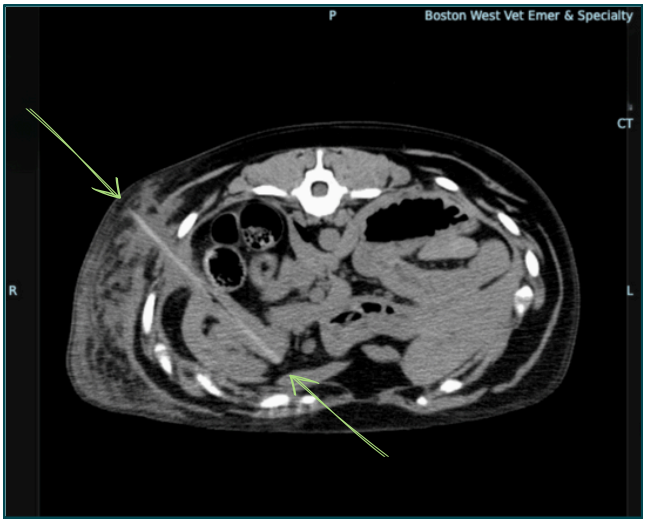
The patient was premedicated with butorphanol and dexmedetomidine, and induced for anesthesia with intravenous propofol. She was maintained on isofluorane for the duration of a complete thoracic and cranial abdominal CT (computerized tomography) scan. Pre- and post- intravenous contrast images were obtained (Optiray; Ioversol, iodinated radio-opaque contrast agent) at the recommendation of attending DVM, **Dr. Natalie Langer, BVSc, DACVIM** . The scan revealed a linear tract through the right dorsal abdominal body wall at the 11th intercostal space that is 11.85 cm in length and 0.45 cm in diameter. The tract was partially fluid-filled, although it appeared to have more hypoattenuating content in the deeper portion that could represent gas or hypoattenuating foreign material. The tract originated from the descending duodenum cranial to the right kidney. The tract extended superficially to the level of the dermis, but a cutaneous fistula is not seen. There was extensive cellulitis and lymphedema of the adjacent subcutis with small pockets of peripherally enhancing fluid arising adjacent to the penetrating wound at the 12th rib and extending cranially and ventrally as a larger superficial subcutaneous pocket of fluid measuring 4.5 x 5.0 cm adjacent to ribs 9-12. The peritoneal wall at the site of the injury was moderately thickened, but there was no peritoneal fluid or free peritoneal gas. The cecum was located immediately dorsal and cranial to the tract, but was unaffected by this injury. No foreign material was seen within the stomach. No abnormalities were detected in the liver, visible portion of the right kidney, pancreas, or adjacent small intestines. Regional cranial mesenteric lymph nodes were mildly reactive but maintained normal shape and contrast-enhancement. The wound did not involve the thoracic cavity.

Diagnosis (continued)

In summary, the specialist radiologist concluded that the absence of a draining tract or identifying cutaneous injury suggesting external trauma, the penetrating wound of the right abdominal body wall is attributed to perforating duodenal foreign material (stick or skewer) with transabdominal body wall migration. Subcutaneous hematoma and/abscess formation was suspected with regional gravity-dependent cellulitis of the caudal ventral abdominal body wall (ribs 9-13). Adjacent peritoneal mesothelium was moderately thickened, but there was no indication of septic peritonitis. Overt adhesion of the duodenum or cecum to the abdominal body wall was not seen, but cannot be definitively excluded. No other adjacent viscera was involved. No thoracic abnormalities were detected.

After speaking with the pets' owners, they recalled ordering some takeout food several weeks earlier, including some beef teriyaki skewers. They mentioned that the pet may have searched through the trash and had eaten one of the wooden skewers.

Hence, the history of the acute development of the right-sided swelling, a single episode of vomiting, and the history of the takeout meal, in addition to the CT scan report, was consistent with a migrating foreign body.



CT Scan showing skewer/foreign body

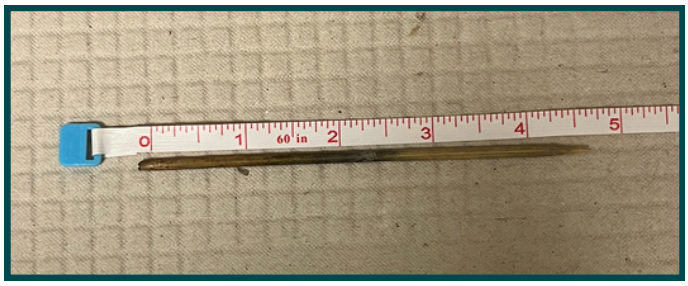
Poppy having her CT Scan

Treatment

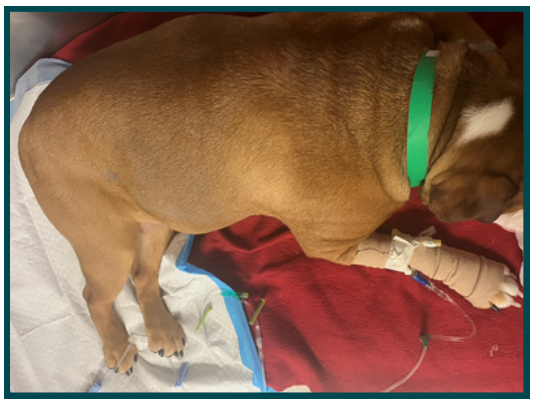
The pet underwent an exploratory laparotomy on the same day with one of **Boston West's** specialist surgeons. A ventral midline celiotomy was performed from the xyphoid to the caudal abdominal region. The peritoneal cavity was entered in a routine fashion. No ascites was noted. Nocita was injected into all layers of the approach. The extra gastrointestinal exploratory was unremarkable.

The gastrointestinal exploratory showed that the proximal duodenum was adhered to the dorsal right thoracic wall. There was a palpable stick-like foreign body. The adhesions to the body wall were broken down, and the duodenum was freed. A large skewer was removed from the duodenum. The defect in the antimesenteric border of the duodenum was debrided and then sutured with 4-0 PDS in a simple interrupted pattern. The site was leak tested with intraluminal saline, and no leakage was noted. The defect in the body wall has a 4-5 cm deep tract with a noted bottom. The site was cultured, debrided, then lavaged. The defect was not closed.

Gloves and instruments were changed. The peritoneal cavity was lavaged with 2 L of warm NaCl. The enterotomy sites were wrapped with omentum, and body wall closure was routine. The pet recovered routinely from general anesthesia and ate some bland food well the following day. She was able to be discharged 24 hours post-operatively.



Almost 5 Inch Beef Teriyaki Skewer



Poppy's right-side swelling (pre operatively)

IM Tech Skyler helping patient Poppy recover from anesthesia

Discussion

External body wall swellings have been described as a complication of trauma, congenital defects, penetrating foreign bodies, or extension of local infections in the dog. Presented here is a case of a young dog with a right-sided swelling containing a migrating foreign body within extensive cellulitis and lymphedema. Although external swellings on pets due to foreign body migration is an uncommon cause, this should be considered as a differential, particularly in a young and previously healthy dog.

Summary

The case described in this report emphasizes the importance of an accurate diagnosis of any acute swellings and/or the possibility of migrating foreign bodies in dogs, as well as early and adequate referral and treatment, to promote an agreeable outcome for patient and owners.

Acknowledgements

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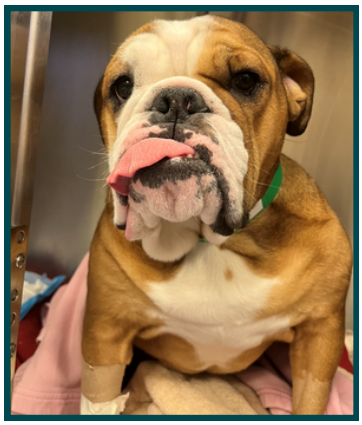

Poppy giving us her best smile

About Boston West

Boston West Veterinary Emergency & Specialty is a 24/7 emergency and specialty hospital located in Natick, Massachusetts. As part of the Ethos Veterinary Health network, we provide advanced, collaborative care to pets throughout the Greater Boston area. Our board-certified specialists and experienced emergency clinicians offer services in Internal Medicine, Surgery, Emergency/Critical Care, Diagnostic Imaging, and Anesthesia. We are committed to working closely with primary care veterinarians to ensure each patient receives personalized, comprehensive care. Learn more at **www.bostonwestvet.com**.

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