

Abrupt Hard Mass Caused by the Push of an Ice Cream Stick after Gastric Perforation in a Dog

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Abstract : A neutered male Maltese, 11-year-old, presented for hard mass at right flank suddenly. Patient vomited and had anorexia before the presentation, but it is improved after. On blood tests, there were no remarkable findings. On physical examination, firm mass (2.9 × 2.6 cm, firm) was detected. No remarkable finding was shown in radiography except for right upper-medial abdominal subcutaneous soft tissue mass. Punch biopsy was performed for histopathologic examination. During the punch biopsy, ice-cream stick (11.5 × 1.2 cm) appeared from the hole on right flank. Additionally gastric perforation was detected on ultrasonography. Emergency surgery was performed for the perforation. On histiopathologic examination of the mass, marked, diffuse, neutrophilic and mild eosinophilic dermatitis/cellulitis with no infectious agents was observed.

Key words : dog, gastric perforation, stick, wooden foreign body.

Introduction

Behaviors like stick chasing and/or chewing in dogs are common causes of many types of injuries (2). There are numerous reports about penetrating wooden foreign bodies in dogs (1). Among them, oropharyngeal stick injuries are frequently reported (3). Wooden foreign bodies cannot be detected on radiography (1). Ultrasonography, computed tomography, and magnetic resonance imaging can indicate the presence of wooden foreign bodies, but the sensitivity of different modalities for detecting wooden foreign bodies is not well-known (4). Selecting a modality in any case depends upon various factors, such as the type of foreign body, site of injury, and condition of the patient (3).

Case

An 11-year-old, neutered male Maltese presented with a hard mass at the right flank suddenly. Initially, the dog presented to the referring veterinarian with a history of vomiting and anorexia. The clinical signs improved after antibiotic administration and fluid therapy. When visiting our hospital, there were no signs of pain, intestinal symptoms, or anorexia.

On physical examination, severe hypertension was observed using Doppler flow detector. The size of the hard mass was 2.9 × 2.6 cm and it was located near the ribs (Fig 1A, C). The mass was not moveable and very firm; thus, osteosarcoma originating from the bone was suspected. Routine hematology

and serum biochemistry revealed mild thrombocytosis.

No remarkable findings were shown in radiography except a subcutaneous soft tissue mass in the right upper-medial abdomen (Fig 1B, D). The mass did not infiltrate into the bone on radiography (Fig 1B, D). Based on the clinical signs and laboratory findings, the non-specific clinical signs were suspected the hard mass originated from a bone (rib). Fine needle aspiration from the mass failed due to its firmness and immobility. Biopsy was performed for histopathology.

During punch biopsy, an ice cream stick (11.5 × 1.2 cm) unexpectedly emerged from the cutting hole of the mass (Fig 2). Ultrasonography was performed to scan for any additional problems, and gastric perforation was detected (Fig 3). Emergency surgery was performed to block the perforation and remove necrotic tissues from the abdomen. On histopathology, marked, diffuse, neutrophilic, and mild eosinophilic dermatitis/cellulitis was observed. After the surgery, the clinical signs significantly improved and the mass was not detected.

Discussion

Chasing or chewing sticks are very common behaviors in dogs and can cause many types of injuries. In this case, the dog swallowed an ice cream stick, which migrated to the stomach and caused gastric perforation. Gastrointestinal leakage can be expected if there is gastric perforation and it may cause intraperitoneal infection (5). Also, clinical signs such as anorexia, lethargy, and diarrhea may be observed with the presence of gastrointestinal foreign bodies (6). However, related clinical signs were not shown at presentation. In dogs suspected with perforation, radiography is used to detect gas in tissues, which is observed in cases of perforation (3).

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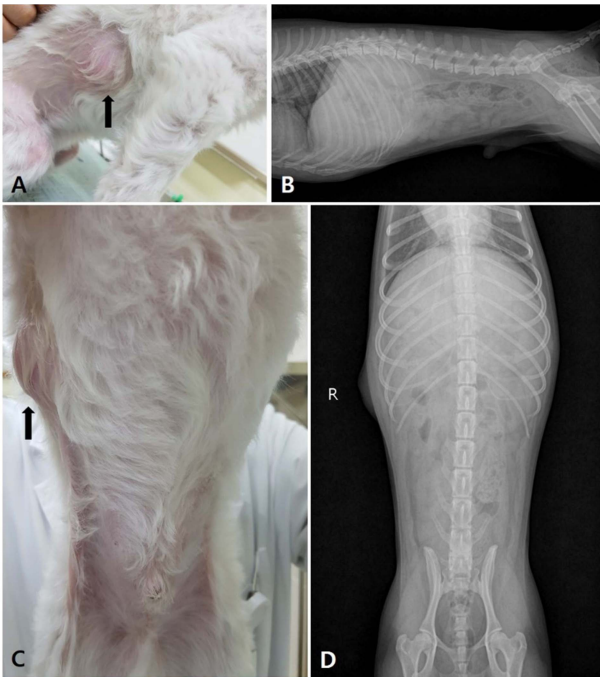


Fig 1. Clinical appearances and radiograph images. Hard subcutaneous mass on left flank area (A) and (C) and lateral (B) and ventral (D) views on radiography. Black arrows show subcutaneous mass.

Radiography was used to rule out the presence of a foreign body before assessing the mass in this case, but no remarkable findings were observed, except for the mass. The mass was hard and firm on the right rib and a bone tumor was suspected. Because osteosarcoma accounts for 85% to 98% of all bone tumors and is highly aggressive, biopsy should be planned and performed promptly. During punch biopsy, an ice cream stick (11.5 × 1.2 cm) unexpectedly appeared from the cutting hole of the mass. The mass appeared owing to the ice cream stick pushing against the abdomen. On physical examination, severe hypertension was observed and it was thought to be induced by pain because of the presence of the foreign body. On histopathology, marked, diffuse, neutrophilic, and mild eosinophilic dermatitis/cellulitis was observed.

This is the first report describing an abrupt hard mass resulting from an ice cream stick pushing against the abdomen after gastric perforation. It is a very confusing case to make a diagnosis without surgical procedure. Without the manifestation of any gastrointestinal clinical signs. In conclusion, the presence of wooden foreign bodies should be suspected when a mass exhibits soft tissue density on radiography and appears suddenly, although no gastrointestinal clinical signs may be detected.

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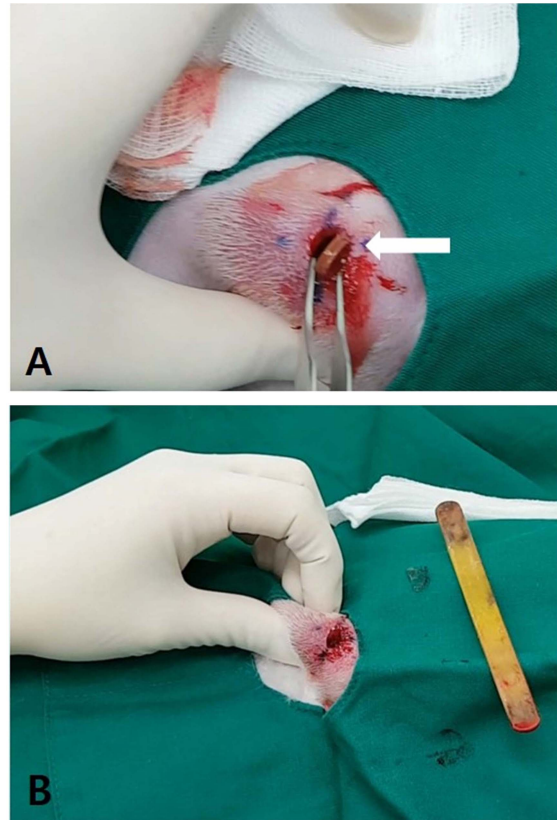


Fig 2. Ice cream stick (A) in the abdomen (white arrow) and (B) after being removed.



Fig 3. Perforation of the stomach is detected on ultrasonography (white arrow).

Conflict of Interest Statement

The authors declare no conflicts of interest with respect to the publication of this manuscript.

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