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## Successful surgical management of black stone chip foreign body in a golden retriever dog

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#### Abstract

The two year old golden retriever dog was brought to the small animal clinic, Veterinary Clinical Complex, Veterinary College and Research Institute, Salem with a history of recurrent vomiting and anorexia for the past one week. On clinical examination, the dog was lethargic, dull and depressed; other vital parameters were within the normal range. Abdominal palpation revealed a hard mass is felt in the mid abdomen. Haematology and serum biochemistry revealed neutrophilia with increased packed cell volume and increased blood urea nitrogen concentration respectively. The lateral abdominal radiograph revealed a radiopaque irregular-shaped material in the small intestine. On the same day, an emergency laparotomy was performed and a black stone chip was removed from the jejunum by enterotomy. Post operatively, the dog was administered with fluids, parental antibiotics and antacid. The dog had an uneventful recovery within a week after the laparotomy.

**Keywords:** Dog, Radio opaque foreign body-Small intestine, Laparotomy, Enterotomy

#### Introduction

Ingestion of foreign bodies is a common behavioural problem in dogs, especially young large breed male dogs<sup>[1]</sup>. Foreign body obstruction encountered all over the gastrointestinal tracts of dogs and cats but most commonly occurred in the jejunum followed by stomach<sup>[2, 3]</sup>. Diagnosis mainly based on clinical signs, radiography, ultrasonography and confirmation by emergency exploratory laparotomy<sup>[4]</sup>. The predominant clinical signs associated with intestine obstruction were vomiting, anorexia, dehydration, abdominal tenderness and absence of defecation. Effective treatment for removal of foreign is enterotomy<sup>[5]</sup> but there is no significant difference between laparoscopic assisted intestinal surgeries with exploratory laparotomy<sup>[6, 7]</sup> for removal of gastrointestinal foreign body. Enterotomy is less complicated when compared to intestinal resection and anastomosis<sup>[8, 9]</sup>.

#### Case history and observation

The two year old golden retriever dog was brought to the Veterinary Clinical Complex, Veterinary College and Research Institute, Salem with a history of recurrent vomiting, letharginess and anorexia for the past one week. On clinical examination, the dog was lethargic, dull and depressed. While palpating the abdomen, an irregular shaped hard mass was felt in the cranial abdomen. Then the dog was referred to the radiology unit for an abdomen lateral radiograph. On lateral abdominal radiograph revealed a radio-opaque material in the small intestine (Figure 1). Haematology and serum biochemistry revealed neutrophil IA with increased packed cell volume and BUN respectively.

#### Treatment and Discussion

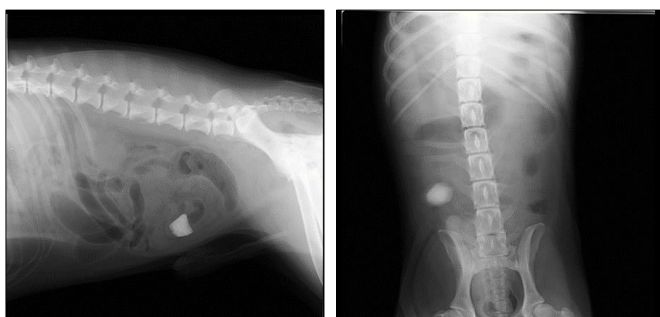
The dog was pre-medicated with Butorphanol @ 0.2mg/kg i/m and Midazolam @ 0.2mg/kg i/m, induction with Propofol @ 4mg/kg i/v and maintained with Isoflurane 2%. The ventral abdomen was prepared aseptically with 5% of Povidone iodine and a surgical spirit followed by mid-ventral celiotomy was performed and a foreign body was identified and isolated from the remaining intestinal loops with moistened laparotomy sponges (Figure 2). A linear incision was made in the intestine over the foreign body (black stone chip – Figure3). The enterotomy incision was closed with polyglycolic acid 3.0. A simple interrupted pattern followed by a leak test was performed to check the oozing of content at the closure site. Linea alba was closed with polyglycolic acid 1.0 by a simple continuous pattern, subcutis with polyglycolic acid 2.0

and skin with polyamide 2.0 by cross mattress suture pattern. Postoperatively, the dog was administered with fluids, parental antibiotics and antacids. The dog had no vomiting postoperatively and recovered uneventfully within a week.

Mostly in the stomach and jejunum was the site of obstruction with foreign body [1]. Similarly the present case also found the foreign body in the jejunum and retrieved through laparotomy. Small intestine was the most common site of obstruction in small animal which might be due to their orientation and relative size. Clinical signs associated with gastro intestinal foreign bodies are wider and different with the anatomical location of a foreign body in the gastro intestinal tract, patency of the lumen (partial or complete occlusion) and duration of occurrence, most commonly encountered clinical signs of vomiting, anorexia, dehydration, abdominal tenderness and absence of defecation [5].

Foreign bodies can be removed by either laparoscopic assisted intestinal or open laparotomy but, there is no significant difference between these two methods [6]. Recovery from the surgery mainly depends on the general condition of the animal, time of presentation, location of foreign body and type of procedures involved (enterotomy Vs resection and anastomosis).

In the present case, even though the dog was presented a week after completely occluded jejunal lumen by black chip stone, the animal was recovered uneventfully within a week after the enterotomy. The uneventful recovery of the dog in the present case could be due to the procedure performed for removal of a foreign body by enterotomy because there was no discoloration and necrosis of the intestinal wall, otherwise it would have been gone through intestinal resection and anastomosis and the prognosis is questionable.



**Fig 1:** Lateral and ventro-dorsal abdominal radiograph shows foreign body in the intestine



**Fig 2:** Intra-operative image of isolated intestinal loop, note arrows indicate foreign body location



**Fig 3:** foreign body removed from small intestine (Black stone chip)

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