

Case Report

## Intestinal Perforation Caused by Impacted Mushroom

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### ABSTRACT

An 83-year-old woman was admitted with severe abdominal pain. Computed tomography revealed distension and wall-thickening of the small intestine. With a diagnosis of acute peritonitis, she underwent an emergency operation. The upper jejunum was found to have been perforated by an impacted *shiitake* mushroom 6 cm in diameter, for which partial resection of the perforated jejunum and abdominal lavage were performed. The patient made a satisfactory recovery. Intestinal perforation by impacted food is extremely rare, and to the best of our knowledge, the present case of intestinal perforation due to mushroom impaction is the first to be reported in the English-language literature. (Jikeikai Med J 2007; 54 : 189-90)

Key words : intestine, perforation, foreign body, food, mushroom

### CASE REPORT

An 83-year-old woman was admitted to our hospital with severe acute abdominal pain. The patient had a history of diabetes mellitus, hypertension, and appendectomy for appendicitis at the age of 40 years. Physical examination revealed tenderness, with peritoneal signs in the upper abdomen. Laboratory data were as follows: white blood cell count, 8,400/mm<sup>3</sup>, neutrocyte count, 7,600/mm<sup>3</sup>, platelet count, 139,000/mm<sup>3</sup>, and serum C-reactive protein level, 0.16 mg/dL. Plain chest and abdominal radiography and gastroscopy revealed no remarkable findings. Computed tomography demonstrated partial distension and wall-thickening of the small intestine without pneumoperitoneum or ascites (Fig. 1).

With a diagnosis of acute peritonitis, the patient

underwent emergency laparotomy in October 2003. Under general anesthesia, the peritoneal cavity was entered through an upper midline incision. When the peritoneal cavity was entered, a small amount of turbid intestinal juice-like ascites fluid was encountered. The upper jejunum 20 cm distal to the ligament of Treitz exhibited dilatation to 6 cm in diameter with distal food impaction and necrotic perforation of the jejunum just proximal to the area of food impaction. Partial resection of the jejunum, including the perforation site and the impacted foreign body, and abdominal lavage were performed. The resected jejunum showed necrosis and perforation caused by wall compression by an impacted *shiitake* mushroom (Fig. 2). Histological examination revealed that the intrinsic muscle layer of the perforated jejunum was necrotic with neutrophilic infiltration. Other than requiring

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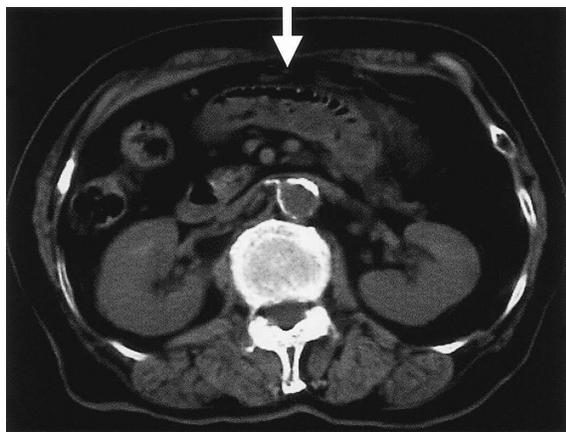


Fig. 1. Computed tomography reveals partial distension and wall-thickening of the small intestine (arrow) without pneumoperitoneum or ascites.

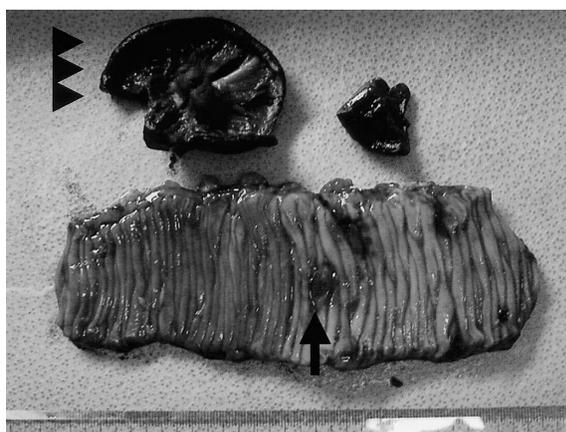


Fig. 2. The resected jejunum was necrotic and perforated (arrow), with distal obstruction of the lumen by compression of an impacted *shiitake* mushroom (arrowheads).

rehabilitation because of her advanced age, the patient made a satisfactory recovery without complications and was discharged on the 21st postoperative day. The patient remains well.

#### DISCUSSION

Foreign bodies, such as a bird bones, fish bones,

and a press-through package are well-known causes of gastrointestinal perforation (1, 2), whereas perforation by impacted food is extremely rare. Although several cases of gastrointestinal obstruction by impacted mushroom have been reported (3), to the best of our knowledge the present case of intestinal perforation by mushroom is the first to be reported in the English-language literature.

When foreign bodies are ingested, spontaneous passage occurs in 80% to 90% of cases, endoscopic removal is required in 10% to 20% of cases, and surgical removal is required in less than 1% of cases (4). Impaction is most common in the ileum, approximately 100 cm proximal to the ileocecal valve (5, 6). Most foods causing impaction in the intestine are rich in fiber or are resistant to digestive juice (6). Although mushroom has been reported as an impacting agent in the small intestine (7), mushrooms are not particularly hard or sharp and, therefore, rarely cause perforation of the small intestine. In the present case, we suspect that intestinal wall ischemia due to the impacted *shiitake* mushroom was the cause of intestinal wall necrosis and perforation.

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