

Endoscopic Removal of a Dental Prosthesis in the Hepatic Flexure of the Colon

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The diagnosis of impacted foreign body in the colon is usually delayed until the complications such as perforation or abscess formation occur. Here we describe a patient who presented with diffuse abdominal pain due to the impaction of a dental prosthesis in the hepatic flexure of the colon. The dental prosthesis, which was inadvertently swallowed, was successfully removed under colonoscopy. Unexplained abdominal pain should alert the clinician to the possibility of foreign body ingestion and further therapeutic colonoscopy may replace or lessen the need for surgical procedures to extract foreign bodies from the colon. (*Chang Gung Med J* 2003;26:843-6)

Key words: colonic, foreign body.

The diagnosis of an inadvertently swallowed foreign body is usually delayed. It becomes apparent when complications arise, such as perforation, abscess or enterocolic fistula formation.⁽¹⁻³⁾ Here we report a patient with complaints of diffuse abdominal pain that resulted from the impaction of a dental prosthesis in the hepatic flexure of the colon. The diagnosis and treatment were successfully accomplished by colonoscopy.

CASE REPORT

An 86-year-old man was admitted to our hospital with a 10-day history of diffuse abdominal pain. The pain had been constant but intensified after the ingestion of meals. Two days before admission the pain had increased in severity and abdominal distension ensued. The patient's medical history was unremarkable and he was not taking any medications.

On admission, physical examination revealed a thin afebrile man with normal blood pressure and pulse rate. The abdominal examination showed

active bowel sounds with evidence of a distended abdomen, but no rebounding pain or muscle guarding was present. Nothing remarkable was noted upon rectal examination. Laboratory data obtained on admission revealed a white blood cell count of 8200/ul with 75% neutrophils, and 6% band forms. Hemoglobin was 12 g/dL. Serum biochemistry test results and liver function test results were all within reference ranges. Routine stool test results were negative for parasites and occult blood. Abdominal roentgenographic examination showed disproportional dilatation of the small intestine and one radio opaque foreign body over the right upper quadrant was incidentally found (Fig. 1). Further computed tomography of the abdomen revealed evidence of a dental prosthesis within the hepatic flexure of the colon without perforation and presence of ascites.

On colonoscopic examination, a dental prosthesis with 6 cm in length was found in the hepatic flexure of the colon with its sharp edge lodged into the mucosa of a haustral fold (Fig. 2). A pentapod grasper was tried at first to remove the foreign body

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Fig. 1 Roentgenographic study of abdomen showed diffuse dilatation of bowels and one dental prosthesis was seen incidentally at the right upper quadrant.

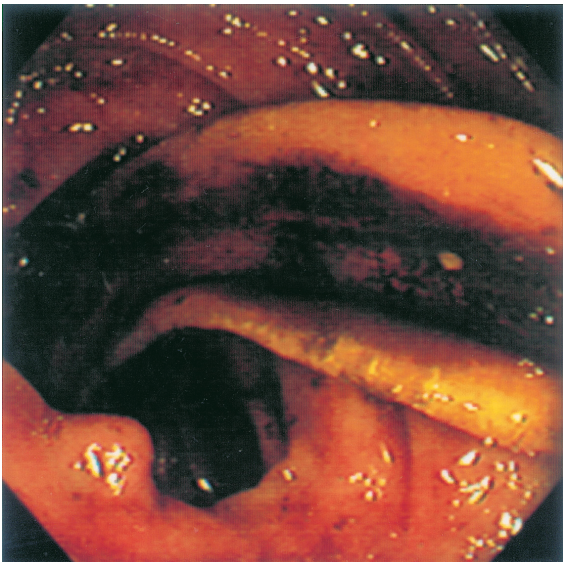


Fig. 2 Colonoscopic examination revealed that the dental prosthesis being across the hepatic flexure area of the colon.

but failed to grasp the foreign body firmly because of the slippery surface of the denture. Thereafter, biopsy forceps were used to grab the dental prosthesis firmly and free it carefully from the site of mucosal



Fig. 3 The dental prosthesis was withdrawn from the colon and measured 6 cm in length.

impaction. The dental prosthesis was withdrawn outside the colon slowly and smoothly (Fig. 3). Subsequent standing abdominal X-ray did not show free air and the patient was discharged after an uneventful course. The patient was followed-up by the out patient department.

DISCUSSION

Foreign body ingestion is a common occurrence and the majority of foreign bodies that reach the gastrointestinal tract pass spontaneously. However, 10 to 20% of the patients require non-operative intervention, and 1% or less require surgery.^(4,5) The majority of foreign body ingestion occurs in the pediatric population. In adults, it occurs more commonly among those with psychiatric disorders, mental retardation, alcoholism, those seeking some secondary gain with access to a medical facility, and denture wearers.⁽⁵⁾ In cases of complications such as impaction, perforation or obstruction most often occurs at areas of acute angulation or physiological narrowing in gastrointestinal tracts. Risk factors that increase the probability of perforation include the presence of intrinsic bowel disease, such as adhesions, inflammatory bowel disease, tumors, diverticula, hernia or blind segments.⁽⁶⁾ With respect to the colon area, anatomic narrowing that may impede passage of foreign bodies include the ileocecal valve and the hepatic and splenic flexures of the colon.

However, two phenomena may occur in the colon to assist the passage of potentially injurious foreign bodies. First, axial flow and peristalsis are slowed when a foreign body is encountered. This allows sharp foreign body to turn, subsequently allowing the blunt end to lead and the sharp end to trail down the lumen.⁽⁷⁾ Second, once the foreign body enters the colon, the object becomes centered within the fecal materials, further protecting the bowel wall from perforation injury.⁽⁸⁾

In clinical presentations, signs and symptoms of bowel perforation, peritonitis, and intestinal obstruction without any history of suggested foreign body may be present as shown in our case.⁽⁹⁾ An interesting finding in our patient was the occurrence of post-prandial abdominal pain. This might have been initiated by the gastrocolic reflex and the irritation caused by colonic stretching and contractions of the involved bowel around the lodged dental prosthesis.

Colonoscopy has emerged as an important tool in the management of foreign bodies in the colon,⁽¹⁰⁻¹²⁾ and it allows the retrieval of objects formerly accessible only by surgical intervention. The indications for colonoscopic extraction are obstruction, contained perforation, failure of object to pass through the ileocecal valve and the presence of a pointed or elongated foreign body.⁽¹³⁾ The good visibility, easy accessibility, and good bowel preparation were key factors that influenced our decision to attempt colonoscopic extraction of the dental prosthesis rather than refer the patients for surgical intervention. In addition, it can not be overemphasized that serial radiological follow-up for signs of foreign body migration, intestinal obstruction and perforation is mandatory in the management of these patients.

To our knowledge, this is the first report of endoscopic retrieval of a dental prosthesis from the hepatic flexure of the colon in a patient who inadvertently swallowed it. We concluded that foreign body ingestion should be considered as a differential diag-

nosis in patients who present with abdominal and constitutional symptoms, and whose laboratory examination results for more common pathologies are negative. Radiological studies and endoscopic intervention may afford the opportunity to diagnose and remove the foreign body. However, surgical intervention may be needed because endoscopic removal may not always be successful and can potentially be complicated by massive bleeding and perforation.

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以內視鏡取出鑲嵌在結腸肝屈處之全口假牙

蔡建宇 許家彰 蔡成枝 趙景華 張簡吉幸

一般異物卡在大腸內都很晚被發現，直到有併發症像腸穿孔、膿瘍或瘻管產生才警覺到。我們在此描述了一個患者來本院時是因全口假牙卡在大腸肝屈處而導致瀰漫性腹痛，以內科大腸內視鏡治療的方式將此誤吞之假牙取出。當患者有無法解釋之腹痛時，臨床醫師應要警覺到病人有無吞入異物而造成不舒服之可能性，且以治療性內視鏡將異物從腸道取出，可使病人免於開刀而降低風險性。(長庚醫誌 2003;26:843-6)

關鍵字：大腸，異物。

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