

Isolated Perforation of the Sigmoid by Ingestion of Denture: A case report.

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Abstract: *A case is reported of acute stercoral peritonitis secondary to the perforation of the sigmoid colon caused by the accidental ingestion of a denture during sleep. In our patient, the clinical presentation suggested acute peritonitis. Standard radiography revealed pneumoperitoneum. During laparotomy, a perforation of the sigmoid colon was found with a denture lodged in the perforation. The patient underwent suturing of the perforation with the creation of a protective stoma, and closure of stoma was realized two months later.*

INTRODUCTION :

The ingestion of foreign bodies (FB) in adults is common. It is most often accidental, sometimes intentional, especially among prisoners and patients undergoing psychiatric treatment. Among the ingested FBs, the ingestion of dental prostheses is rare, accounting for less than 4% [1]. It can lead to digestive perforation, often esophageal, gastric, or intestinal. Isolated perforation of the sigmoid colon is rare [1]. We report a case of digestive perforation, characterized by its location and loud clinical presentation.

CASE PRESENTATION :

Mr. M.B., aged 41, a chronic smoker, had been experiencing recurrent abdominal pain for a month, for which he self-medicated with aspirin. He presented to the emergency room with diffuse abdominal pain that had abruptly started six hours earlier. Clinical examination revealed generalized abdominal rigidity accompanied by fever (38.5 °C). Rectal examination identified a bulging in the Douglas pouch. The overall condition was slightly compromised. Blood pressure, heart rate, and breathing were normal. Abdominal X-ray without preparation showed bilateral pneumoperitoneum. Given the history of epigastric pain, chronic smoking, generalized abdominal rigidity, and pneumoperitoneum, perforated ulcer peritonitis was suspected.

Emergency laparotomy, after stabilizing the patient, revealed a stercoral intraperitoneal effusion of medium abundance, due to perforation of the sigmoid loop, secondary to entrapment of a mobile dental prosthesis in the sigmoid colon. (Fig 1-2)

The prosthesis was extracted (fig 3), peritoneal lavage with saline was performed, and the sigmoid perforation was sutured along with exteriorizing a sigmoid stoma right before the perforation due to the fact that the perforation was on a non-mobile portion of the sigmoid colon, at the left iliac fossa. Postoperative recovery was uneventful. Restoration of continuity was performed three months later. During the medical history review, the patient mentioned that he used to sleep with his prosthesis in place and had not found it upon waking up 1 week before his hospitalization. He did not recall ingesting it.

DISCUSSION:

Foreign bodies (FBs) can be voluntarily ingested by patients in a prison environment and those undergoing psychiatric treatment. Outside of these situations, ingestion can occur accidentally [1,2]. Various types of ingested FBs have been reported in the literature, primarily food debris (bones, fish bones), toothpicks, and coins. Other types have been more rarely reported, such as razor blades, toothbrushes, spoons, glass fragments, and sewing needles [2–5]. The ingestion of dental prostheses mainly occurs in patients in their sixties with partial or total denture loss. FB ingestion is favored by reduced intraoral sensitivity. It is often overlooked since the awareness of ingestion is found preoperatively in only 4% of cases [1,3]. Our patient was young, and ingestion occurred accidentally during sleep. he did not take the precaution of removing his removable dentures before bedtime. he did not even remember the ingestion, making preoperative diagnosis almost impossible. he was likely not aware of the risk he faced by sleeping with his dentures.

The predictive site for digestive perforations due to FB ingestion is the small intestine (80%). This is attributed to the irregular surface of the small intestinal mucosa, facilitating impaction and subsequent perforation [1,3,6–8]. Sigmoid colon perforation by dental prosthesis is rare. In a study by Newell and al., out of about twenty patients, only one (5%) had colonic perforation [1]. These colonic perforations may be favored by a history of constipation.

Unlike perforations in the small intestine where patients often present with acute abdominal symptoms, colonic perforations due to FB ingestion are often asymptomatic. These perforations may progress to encapsulation with the formation of an abscess around the perforation. General condition is often preserved, temperature is normal, and clinical evolution exceeds three days [3]. This was not the case in our patient, as he presented with a loud clinical picture strongly suggestive of acute peritonitis.

Abdominal X-rays can aid in the diagnosis by showing the FB when it is radiopaque or by revealing pneumoperitoneum. In cases of challenging diagnosis, abdominal computed tomography (CT) is invaluable, showing the FB and specifying its size and location. Helical acquisition mode in CT allows volumetric visualization of the FB [9]. In our patient, the clinical context and bilateral pneumoperitoneum left no doubt about the diagnosis of hollow organ perforation. The plastic nature of the ingested prostheses did not allow their visualization on AXR.

The treatment is surgical, and laparoscopic approach is an alternative to midline laparotomy. It enables a complete exploration of the abdominal cavity, peritoneal lavage, and construction of colostomy [3]. In our patient, laparoscopy was not available urgently, leading to surgical intervention through midline laparotomy.

CONCLUSION:

Perforation of the sigmoid colon due to the ingestion of dental prosthesis is rare. The awareness of ingestion is seldom found. The clinical presentation is often subtle, and the diagnosis is frequently made intraoperatively. Abdominal CT should be urgently performed in case of diagnostic uncertainty. The best treatment remains raising awareness among the population about the risk of ingestion when sleeping with a removable dental prosthesis in place.

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Fig 1: perforation of the colon before extracting the FB



Fig 2: extracting the FB



Fig 3: dental prosthesis