



Colorectal Perforation from a Drainage Tube

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Abstract

Drainage tube migration after surgical procedures is a rare incidence and in the majority of cases without any significant complications. However, a few cases of intestinal obstruction or perforation have been reported. The most common site of a dislodged tube is the duodenum. Here we present a case of perforation of the sigmoid colon associated with drainage tube migration.

A 55 years old male Caucasian patient underwent emergency surgery for duodenal rupture after ERCP. A latex drainage tube was placed into the peritoneal cavity and another one in the pouch of Douglas. In the 5th postoperative day, intestinal content was observed into the later drainage tube without any signs and symptoms of intra-abdominal inflammation. A CT Scan revealed output of the contrast dye into the drainage tube which was in touch with the sigmoid colon. The tube was mobilized and the patient received conservative treatment. After the 15th postoperative day, no discharge of fecal material was identified. The patient was discharged on the 21st postoperative day.

Drainage tubes are an indispensable tool in the hands of surgeons in abdominal operations. In cases when migration occurs, endoscopic retrieval is indicated, in order to reduce the risk of secondary complications such as obstruction, infection. If complications occur, it is possible to achieve a good outcome by providing supportive care to the patient.

Keywords: Colorectal perforation; Latex drainage tube; Postoperative

Introduction

Drainage tubes used in surgical operations are a rare cause of postoperative intestinal perforation [1]. According to literature we may only determine a handful of cases of bowel perforation caused by latex drainage tubes [2-6]. The mechanism of induced injury of the bowel is associated with migration of the tube into the gastrointestinal tract and injury of the gastrointestinal walls [2,3]. The injury may cause perforation and subsequent necrosis of the affected site [3,4].

Perforation is a major complication that could be potentially threatening for the patient. In order to avoid this complication, drainage tubes should be carefully placed and removed after surgical operations [4,5]. In almost all previous reported cases patients were treated by laparotomy, while in one case the intestinal perforation healed spontaneously [5,7].

Case Presentation

A 55 years old male Caucasian patient presented at the ER complaining of diffuse abdominal pain, nausea and flatulence. The clinical examination revealed abdomen distension and signs of peritoneal irritation, particularly supra pubic region. White blood cells, C-reactive protein and direct bilirubin were found abnormally elevated. Abdominal ultrasound and CT-scan revealed the presence of multiple stones in an inflamed gallbladder, and also stones in the common bile duct. Additionally CT-scan showed a diverticulum in the second part of the duodenum. The diagnosis of cholecystitis with choledocholithiasis was made and an ERCP was scheduled and performed by an experienced gastroenterologist.

The next day, following ERCP the patient was operated urgently because of duodenal perforation associated with the ERCP. During surgery, the perforation was recognized at the site of diverticulum and safely repaired with interrupted sutures. Additionally a cholecystectomy was performed. A latex drainage tube was placed at the pouch of Douglas. In the 5th postoperative day, intestinal material was observed inside the drainage tube of the pouch of Douglas, with the patient not showing any signs of peritoneal irritation. The CT-scan showed output of the contrast dye into the drainage tube which was in touch with the sigmoid colon (Figure 1). The tube was minimally mobilized and the patient was treated conservatively.

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Figure 1: The CT scan revealed output of the contrast dye into the drainage tube (arrow) which was in touch with sigmoid without escaping into the peritoneal cavity.

After the 15th postoperative day, no discharge of fecal material was identified. The patient was reevaluated by CT scan, which revealed no leakage from the sigmoid colon and the patient was discharged on the 21st postoperative day.

Discussion

In this study we analyze a very rare case of bowel perforation by moving a drainage tube. According to literature the rectal perforation by latex tubes is extremely rare and in the majority of cases they were treated by laparotomy. The major complications associated with the use of drainage tubes include infection, pain, foreign body reaction, leakage from bowel anastomoses and, most importantly, perforation of the bowel, bleeding and herniation or evisceration at the site of entrance [1,5,8,9]. In addition, the prolonged period of use of drainage tubes increases the incidence and complications such as fistulas and obstruction of the gastrointestinal tract [12,13]. Nevertheless, drainage tubes are an indispensable tool in the hands of surgeons in abdominal operations allowing the removal of intraperitoneal fluids, thus preventing abscess formation and permitting the reliable identification of a potential bleeding [10,11].

Regarding the type of drainage tubes, there is no consensus on the matter, although it seems that the most widely used type is the latex tube that seems to be less prone to infections and easier to use. The drainage tubes can be placed for a few hours up to several days [6,10,11]. The benefits from using drainage tubes clearly outweigh the potential complications and therefore their use is highly suggested in abdominal surgery [6,10,11].

Conclusion

Drainage tubes are an important aid in everyday surgical practice. The use of latex drainage tubes has limited complications, such as migration and perforation of the bowel. These complications appear rarely but can be quite threatening especially if not diagnosed immediately and treated effectively.

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