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Case report

Perforated colon cancer mimicking contaminated pancreatic pseudocyst: The treatment dilemma under urgent laparotomy

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SUMMARY

Non-traumatic colon perforation may be the result of an advanced carcinoma, diverticulitis or inflammatory bowel disease. Such perforations are rarely observed in the splenic flexure and in special cases mimic pancreatic pseudocysts or abscesses. On the other hand colonic perforation is an uncommon but potentially lethal complication of a pancreatic abscess. Several diagnostic and treatment dilemmas the surgeon has to face as soon as the diagnosis of a splenic flexure abscess has been made are: Is the pancreas or the colon the origin of this lesion? Should endoscopic drainage or operation be performed? And if operation, what kind in such a critically ill patient? Here we report a new case of a perforated colon cancer located in the splenic flexure and mimicking a peripancreatic abscess which was initially misinterpreted as a contaminated pancreatic pseudocyst.

INTRODUCTION

It is well known to all surgeons that colon perforation may result from trauma, cancer, diverticulitis or inflammatory bowel disease and, based on different parameters, may lead to spread peritonitis or abscess formation. Splenic flexure is an uncommon site of perforation, leading potentially to a perineoplasmatic phlegmon mimicking an abscess of the tail of the pancreas.

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Conversely, several degrees of colonic lesions following pancreatic abscess formation have been described: a) localized paralytic ileus of the transverse colon b) Intramural involvement of the colon in a localized area c) colonic stricture simulating colonic carcinoma d) colonic bleeding e) colonic fistula[1,2]. The incidence of colonic involvement in patients suffering from a pancreatic abscess[3,4] is as high as 1% (Table1, 2).

The special radiographic findings which indicate colonic participation into a peripancreatic abscess are: a) localized gaseous distention of the transverse colon, b) colon cut-off sign[5-7]. Nowadays CT has limited their diagnostic significance as it usually can easily reveal a peripancreatic abscess, but it is unable to diagnose the colonic fistula. Fistulography, whenever possible, e.g. performed gastric surgery or open drainage of a pancreatic abscess, remains the most sensitive method in demonstrating the fistulous communication between the peripancreatic abscess and the splenic flexure of the colon, and it is always advisable when high index of suspicion of such a lesion exists[8]. Colonoscopy in cases with suspected pancreatico-colic fistula may be helpful but hazardous (Table 3).

The treatment of colonic fistula formation associated with a peripancreatic abscess is a matter of debate[9]. Undoubtedly much experience is needed to determine which patients are appropriate candidates for endoscopic versus surgical management, or what surgical procedure should be performed (Table 4, 5). In our experience a fundamental question must be answered: What is the leading cause of the peripancreatic abscess? (Algorithm). All reports in the world literature describe this abscess formation as a result of acute pancreatitis or as a contamination of a well-known pancreatic pseudocyst. The surgeon who faces this problem in an urgent laparotomy must not underestimate the possibility of a

Table 1. Pathogenesis of colon necrosis

• Direct congestion of the colon by pancreatic enzymes
• Mechanical pressure
• Ischaemia of the colon
- venous infraction
- compression of the marginal vessels
- Thrombosis

Table 2. Symptoms of colonic fistula

• Hematohezia
• Unusual rectal drainage of pus or liquid material
• Sudden disappear of a previous palpated mass
• Sepsis

Table 3. Diagnosis

• Barium enema
• CT (low sensivity)
• Fistulography (recommended)
• Colonoscopy (helpful but potentially hazardous)
• Mesenteric angiography (bleeding> 1ml/min)

Table 4. Criteria for ct-guided needle/endoscopic drainage (stomach or duodenum)

• Patient in good condition
• Experienced radiologist/endoscopist (familiar to endoscopic drainage uncomplicated of pseudocysts)
• Well defined abscess
• Accessible lesion
• Absence of internal divides-diaphragms
• Low viscosity of the purulent material

Table 5. Types of operation (Drainage +)

• Closure of fistula
• Loop Colostomy
• Partial resection
• Colostomy + Resection
• Colostomy+Partial colectomy/+Splenectomy
• Loop ileostomy
Distal pancreatectomy +Splenectomy+Closure of fistula

perforated colon cancer, especially when little is known about the medical history of the patient.

CASE REPORT

A critically ill, 78-year-old woman was admitted to the Third Department of Propaudeutic Surgery of Sotiria Hospital with severe abdominal pain, mainly located in the left upper quadrant, and moderate fever (38,2° C). On physical examination epigastric and left upper quadrant tenderness with guarding was noticed, while no masses were palpated. Past medical history revealed prolonged mild pain at the same location without any other specific symptoms. Laboratory findings included a hematocrit of 27 per cent, leykocyte count 18.000/cm^3 with left shift, but serum amylase was within normal limits. Chest roentgenogram showed a left pleural effusion and ultrasonography of the upper abdomen was suggestive of a peripancreatic abscess. Exploratory laparotomy was decided which revealed an abscess formation at the tail of pancreas in close relation to the splenic colonic flexure. Due to the severe inflammation in the area, the operation was limited to external drainage of the abscess. The postoperative course of the patient was meliorated temporarily under broad-spectrum antibiotic therapy. On the fifth postoperative day the patient became septic and fistulography via the drain was then performed. A fistulous communication between the remaining cavity of the abscess and the splenic flexure was demonstrated. Urgent laparotomy was indicated and extended left hemicolectomy, splenectomy and distal pancreatectomy were performed, while the remaining cavity was lavaged of debris and purulent material. Both frozen and permanent sections were suggestive of perforated colonic cancer. Postoperatively, antimicrobial agents based on the culture results were given and the patient progressed uneventfully with gradual remission of the fever. At 1 year following surgery the patient is still alive and in good condition.

DISCUSSION

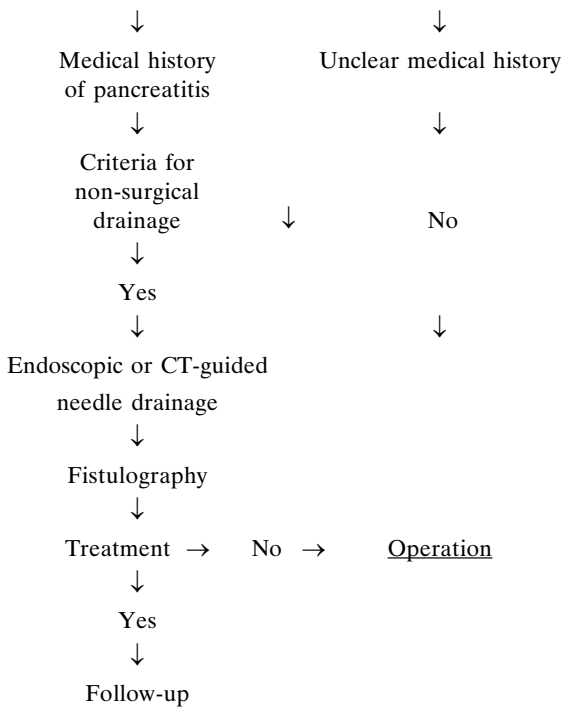
Pancreatic and peripancreatic abscesses complicate acute pancreatitis in 1 to 5 per cent of patients according to several reported series[4]. The mortality rate of these lesions without surgical, endoscopic, or CT guided needle drainage, despite broad-spectrum antibiotics administration, approaches 100 per cent[10].

Colonic involvement in pancreatitis includes localized ileus, mechanical obstruction from an impinging pancreatic phlegmon or abscess, colon necrosis or fistulization[11,12]. 114 such cases have been described in the world literature and 40 of them involve colonic fistula formation with an abscess cavity[8,13,14].

Non-traumatic colon perforation is a well-known phenomenon mostly seen in cancer and diverticulitis, although it may occasionally occur spontaneously too[15]. Nevertheless, splenic colon flexure is not a common site of perforation and even less of abscess formation[16]. The close anatomic relationship of the splenic colon flexure with the tail of pancreas can easily mislead the surgeon to consider this abscess formation to be a result of a pancreatic phlegmon or of an infected pancreatic pseudocyst, especially when little is known about the past medical history of the patient[17]. Moreover, when a colon fistula formation with such a cavity is diagnosed, despite the absence of literature reports, there must be a high index of suspicious on the part of the surgeon the surgeon to include in his differential diagnosis perforated colon cancer. If there is any doubt about the origin of the abscess, any attempt at endoscopic or CT-guided needle drainage must be avoided, despite some good results reported in selected patients[18,19]. Furthermore, the surgeon must be prepared to perform a more radical operation, although gut resection is not mandatory in cases of fistula following pancreatitis[8,13]. Additionally, Khan[20] reported a spontaneous resolution of a pancreatic pseudocyst by perforation into the colon, but clearly this is not usually the case.

ALGORITHM

Peripancreatic abscess



In conclusion, any case of a peripancreatic abscess with fistula formation in the colon must not mislead the surgeon to the diagnosis of a contaminated pseudocyst, but on contrary, it may alert him to perform a radical operation.

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