

How Can a Pancreatic Neoplasm be Diagnosed by Colonoscopy? A Case Report

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Abstract

Gastrointestinal bleeding frequently manifests as a severe, life-threatening condition. The pathological conditions of the pancreas rarely associate with rectal hemorrhage. The history of a male patient with cancer of the tail of the pancreas, which invaded the large bowel and manifested clinically as a severe lower gastrointestinal bleeding, is reported. Repeated colonoscopy diagnosed a necrotising tumor mass which was communicating with the bowel through a fistula. Neoplasms of the tail of the pancreas usually do not cause early symptoms, therefore extra pancreatic extension and invasion of other organs are relatively common at the time of diagnosis. When managing patients with distal gastrointestinal bleeding, the possibility of malignancy originating from other organs other than the large bowel must always be borne in mind.

Key words

Pancreatic neoplasm - lower gastrointestinal bleeding - colon perforation

Introduction

Gastrointestinal bleeding is frequently a severe, life-threatening condition that generally requires a prompt diagnostic decision. Black, digested blood in the stools is indicative of a lesion located in the upper gastrointestinal tract or in the proximal part of the small intestine, while fresh or clotted blood in the stools originates from the colon or rarely from the terminal ileum. Besides disorders of the anal sphincter, the most common causes of lower gastrointestinal bleeding are colon tumors, diverticulosis and diverticulitis (1).

Pancreatic cancer is the second most common tumor of the gastrointestinal tract: more than 28,000 new cases are diagnosed each year in the United States. In spite of the availability of modern diagnostic methods, the disease is mostly diagnosed in an advanced stage, and thus curative treatment can be carried out only rarely (2). Gastrointestinal bleeding caused by pancreatic cancer occurs relatively frequently if the tumor of the head of the pancreas perforates into the duodenum, but bleeding arising from more distal areas has rarely been reported in the literature.

Case history

A 66-year-old male patient was admitted to the Department of Medicine in March 2004 with recurrent bloody diarrhea and fever that had been present for 2-3 weeks. Although he had lost 8-10 kg, his appetite at the beginning of the disease was normal. After admission, his fever ceased, and his stools became well formed and free from blood. He had been smoking for decades and was a moderate drinker. Physical examination revealed an enlarged left hepatic lobe, tenderness and an uncertain resistance below the left costal margin; clotted, bloody mucus was detected on the gloves during the digital rectal examination. His laboratory results revealed an increased erythrocyte sedimentation rate, iron-deficiency anemia, leukocytosis, hypoproteinemia, hypoalbuminemia and elevated levels of alkaline phosphatase and gamma-glutamyl transferase.

Abdominal ultrasonography demonstrated several metastatic nodules 3-4 cm in diameter in the liver with necrotic centers and hypoechoic margins. The gallbladder contained several small gallstones with acoustic shadow. No obvious abnormality of the head or the body of the pancreas could be observed and the tail was obscured by intestinal gas. No bleeding source could be found on upper gastrointestinal tract endoscopy, while a sessile polyp that proved to be a tubular adenoma was detected in the gastric antrum. During colonoscopy, no bleeding source was found in the colon which contained bloody, watery stools, although the possibility of an external compression causing

significant stenosis in the lienal flexure came into consideration. A second colonoscopy was indicated, due to recurrent rectal bleedings corrected by transfusions, during which two ulcerated areas were found a few cm distally from the stenosis with an opening in one of them (Fig.1). After air was blown in, the opening gradually dilated (Fig.2) and finally a device could be introduced through the fistula into an unrecognizable necrotic tumor mass (Fig.3).

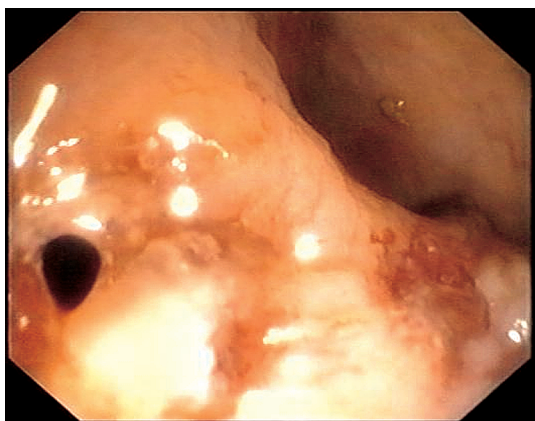


Fig.1 The two ulcerated areas found at the level of lienal flexure with an opening in one of them.

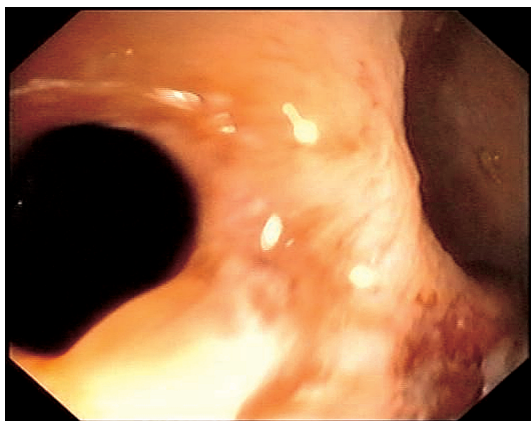


Fig.2 After air was blown in, the opening gradually dilated.

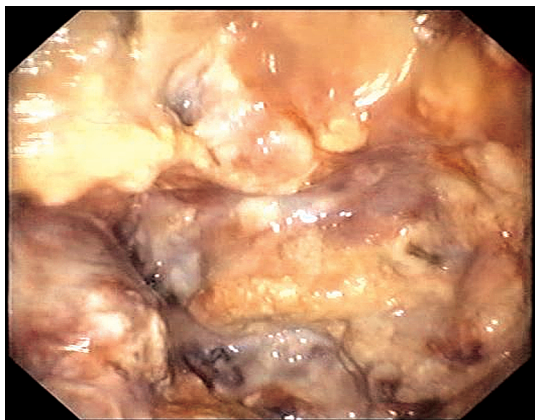


Fig.3 Finally the colonoscope could be pushed through the fistula into an unrecognizable necrotic tumor mass.

In accordance with this finding, a neoplasm, probably originating from the retroperitoneum and penetrating into the lienal flexure, was diagnosed. The patient was admitted to the Department of Surgery to undergo an explorative laparotomy. During the intervention, peritoneal carcinomatosis, ascites and diffuse liver metastases were detected, and a possible tumor mass in the tail of the pancreas and in the lienal flexure, from which a biopsy was taken.

Histological assessment disclosed a tumor arising from the biliary tract or the pancreas; a colorectal origin seemed unlikely (abortive mucus production by PASAK staining, immunophenotype: CK7: +++, CK 20: negative, chromogranin-A: negative). The patient was taken into oncological care, but the treatment could not be started due to deterioration in his condition.

Two weeks after the first intervention, the abdominal pain increased and tightness occurred. Imaging methods verified a hollow organ perforation, and another laparotomy was carried out. Fibrinous peritonitis in the region of the tumor mass, multiple fistulas and perforation openings around the abscess were detected in the lienal flexure. The abscess was drained. The patient's condition improved and his stools became normal after an uneventful postoperative period. However, 16 days after the second operation he died. Postmortem histological assessment of the tumor revealed a high-grade pancreatic adenocarcinoma.

Discussion

In our patient, progressive pancreatic cancer which penetrated into the colon at the level of lienal flexure causing rectal bleeding was one of the first symptoms of the malignancy. Although examinations carried out before colonoscopy had already confirmed the metastasizing tumor, the primary process could not be exactly demonstrated. Considering the bloody stools, a colon tumor was a possible diagnosis. During colonoscopy we managed to verify that the advanced tumor had penetrated into the colon, the most probable origin of which seemed to be the pancreas. To the best of our knowledge, this is the first case reported in which malignant pancreatic disease was the cause of a lower gastrointestinal bleeding.

Three types of cells can be differentiated in the normal pancreas: acinar cells (80% of the cells), ductal cells (10-15%) and endocrine (islet) cells (1-2%). More than 95 % of the tumors arise from the exocrine portion of the pancreas and have proved to be adenocarcinoma (5). According to autopsy data, 60-70% of the tumors develop from the head of the pancreas, 5-10% from the body and 10-15% from the tail of the pancreas. At diagnosis, the average size of the malignancy originating from the head of the pancreas is 2.5-3.5 cm, contrary to the 5-7 cm size of those arising from the tail (6). The difference in the size is explained by the early asymptomatic condition of distal tumors. The tumorous infiltration of the retroperitoneal tissues is nearly always present at the time of diagnosis in the case of tumors of the pancreatic tail. Infiltration of the spleen, stomach and the

left adrenal gland is also common while the obstruction of the biliary tract or the Wirsung's duct is extremely rare (7) thus - as in our case - a stage T4 tumor is only detected by chance and too late.

Penetration of pancreatic head tumors into the duodenum is a relatively common cause of upper gastrointestinal bleedings (8). Rarely, pancreatic disease can cause gastrointestinal haemorrhage through inflammation, postoperative complications and congenital abnormality (9). Lower gastrointestinal bleeding caused by pancreatic pseudocysts developing from acute necrotizing pancreatitis and penetrating into the colon (10) has already been reported, but not caused by a tumor. Ectopic pancreatic tissue that occurs frequently in the stomach and rarely in the colon (usually appears as a submucous mass) can also be a source of bleeding (11).

In our patient, the course of advanced malignancy could not be influenced, and therefore we found it important to report the occurrence of this rare complication and the circumstances in which the diagnosis was established.

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