Spontaneous intramural duodenal hematoma complicating acute pancreatitis

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A 49-YEAR-OLD MAN WHO is also a heavy drinker was referred to our hospital with sudden back pain and drowsiness. He had no history of anticoagulant use or trauma. He reported 1-week history of recurrent abdominal pain and vomiting after every meal. Physical examination revealed localized resistance with tenderness in the right upper abdomen. Laboratory examination revealed potassium, 2.5 mEq/L; urea nitrogen, 42 mg/dL; creatinine, 1.9 mg/dL; total bilirubin, 2.8 mg/dL; gamma-glutamyltransferase, 952 U/L; and amylase, 1,374 U/L; these values indicated acute pancreatitis. The International Normalized Ratio was within normal range. Arterial blood gases on room air were as follows: pH, 7.541; Po2, 56.1 mmHg; Paco2, 64.4 mmHg; base excess, 28.5 mmol/L; and bicarbonate 55 mmol/L, suggesting metabolic alkalosis. Abdominal contrast-enhanced computed tomography (CT) in the early phase revealed an nonenhancing intramural hematoma with luminal narrowing in the descending part of the duodenum and peripancreatic fluid collections and inflammatory changes of the body and tail of the pancreas (Fig 1).

Intensive treatment for acute pancreatitis was initiated with a proteinase-inhibitor and infusion of large volumes of fluids. Upper gastrointestinal endoscopy revealed a reddish tortuous lesion with fur in the descending part of the duodenum and biopsy of this lesion showed no malignancy (Fig 2). An upper gastrointestinal series revealed severe constriction of the descending part of the duodenum. There was no dilatation of the common cystic duct or pancreatic duct on magnetic resonance cholangiopancreatography. Although follow-up CT and endoscopy indicated shrinkage of this lesion, we could not completely rule out pancreatic malignancy. Therefore, laparotomy and biopsy of the duodenal mass were performed; the pathologic findings indicated no malignancy. We diagnosed spontaneous intramural duodenal hematoma complicating acute pancreatitis. The postoperative course was uneventful and the patient was discharged on postoperative day 18.

DISCUSSION

The first report describing duodenal hematoma at autopsy was published by MacLauchan in 1838. More than 70% of intramural duodenal hematoma are caused by blunt abdominal injury. Nontraumatic duodenal hematoma was first reported by Sutherland in 1904 in a child with Henoch-Schönlein purpura and intussusception. Spontaneous
intramural duodenal hematoma is considered a rare condition and is most commonly associated with oral anticoagulant therapy with warfarin. Recently, with increased use of anticoagulant therapy in elderly patients, there have been more reports of this lesion type. Other predisposing factors include hemophilia, idiopathic thrombocytopenic purpura, leukemia, lymphoma, myeloma, chemotherapy, vasculitis, pancreatitis and pancreatic cancer. According to Ma et al, only a few reports about the relations between spontaneous intramural duodenal hematoma and pancreatitis, in particular the acute type, have been published in the English literature. Although the mechanism causing intramural duodenal hematoma in pancreatitis remains unknown, there are 2 hypotheses. First, intramural ectopic pancreatic tissue could cause acute inflammation and subsequent necrosis and hematoma, and second the leakage of pancreatic enzymes during acute pancreatitis could damage duodenal blood vessels and cause necrosis and hematoma. Because our patient had a normal International Normalized Ratio, it is possible that the inflammation of acute pancreatitis contributed to the condition.

The presentation of spontaneous intramural duodenal hematoma can vary from mild and vague abdominal pain to intestinal tract obstruction and acute abdomen, as in the present case. Owing to its rarity, characteristic imaging findings are limited. Gastrointestinal tract barium study shows some characteristic findings, including a stacked-coin appearance representing a thickening of folds with sharp demarcation and crowding of the valvulae conniventes, a picket fence appearance with spike-like projections of barium between adjacent thickened mucosal folds, abrupt proximal and distal transition points, and luminal narrowing of a rigid and nondistensible segment of intestine. Definitive diagnosis is difficult preoperatively because these findings are also seen in conditions such as inflammatory duodenal disease, lymphoma, and tuberculosis. Computed tomography is the most useful imaging technique for diagnosis of this disease. The diagnosis of duodenal hematoma is determined based on the CT findings of circumferential duodenal wall thickening, luminal narrowing, and intestinal tract obstruction in patients with abdominal pain and a singular factor.

Most patients with nonextensive hematoma (an average length of 25 cm) will improve with medical and nonoperative treatment such as intestinal rest, nasogastric decompression, blood transfusion, and correction of abnormal coagulation. However, patients with extensive hematoma involving more than half the length of the intestine may deteriorate, requiring aggressive medical treatment. Surgery may be necessary on suspicion of malignancy, uncertain diagnosis, perforation, or ischemia.

REFERENCES