

Retroperitoneal haematoma, a rare complication of acute pancreatitis

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Abstract

Introduction. Retroperitoneal haematoma (RPH) is a rare complication of acute pancreatitis (AP), found in only 1-3% of cases, but the gravity of this complication and its high lethal risk result in mortality between 50 and 80%. Out of 60 cases of AP admitted and operated in the Surgery Department of the Emergency Hospital of Bucharest over a period of 2 years (2003-2004), two cases (3, 33%) had AP complicated with RPH.

Results. The two cases are: an AP complicated with hemorrhage due to the erosion of retroperitoneal vessels and hypovolemic shock and a fissured hemorrhagic cephalic pancreatic cyst following an AP. In both cases, emergency surgical intervention was duodenopancreatic debridement, hemostasis and peritoneal drainage. The outcome in the first case was fatal.

Conclusions. Being a rare phenomenon (found in only about 3% of AP), without a specific clinical presentation and a high mortality rate, RPH complicating an AP requires emergency surgical intervention. (Revista de Medicină de Urgență, Vol. 3, Nr. 1: 17-20)

Keywords

retroperitoneal haematoma, acute pancreatitis,
surgical treatment

Introduction. Three out of four patients diagnosed with acute pancreatitis are admitted to an intensive care unit, 25% of them will develop a complication with a 33% mortality rate.(1)

The retroperitoneal hemorrhage, as a complication of acute pancreatitis, occurs in only 1-3% of all cases, but the severity of the phenomenon and its high lethal risk render a mortality rate of 50 % up to 80%. (1)

The hemorrhage is the consequence of an ongoing process of vascular necrosis and even though it is a very rare condition, the damage is extremely severe due to infectious complications. The lytic pancreatic enzymes and the inflammatory by-products trigger a necrotizing arteritis involving the peripancreatic and splanchnic arteries. In addition to this necrotizing vasculitis the arteries are deprived of nutrients following an inflammatory vascular micro

thrombosis of the vasa vasorum, all of which lead in the end to the development of a pseudo aneurysm. (2, 3)

Results. During a two year span (2003-2004), 60 cases of acute pancreatitis have been admitted and operated at the Department of Surgery of the Clinical Emergency Hospital in Bucharest. We diagnosed intraoperatively 2 cases (3,33%) of acute pancreatitis(AP) complicated with retroperitoneal haematoma.

The first case involved a 47 year old male, smoker and heavy drinker with a significant history for non surgically managed acute relapsing pancreatitis. The patient was transferred from another medical facility and delivered to our hospital with a presumptive diagnosis of acute abdomen. The first investigations were undertaken in the emergency department. The physical exam revealed a distressed patient, in stupor, with pale, clammy skin, increased respiratory rate and heart rate and a systolic blood pressure of 100 mmHg. The abdomen was tender with guarding and rebound. The abdominal ultrasound revealed an important amount of free fluid within the peritoneal cavity and an overall enlarged pancreas.

The blood tests showed a mild anemia, leukocytosis, abnormally decreased electrolytes, hemoconcentration and significantly increased liver function tests and pancreatic enzymes.

During the resuscitative attempts the patient suddenly deteriorated, lost his consciousness and slipped into a coma (GCS=3), with non reactive pupils, systolic BP=50 mm Hg, a heart rate=160 bpm and a respiratory rate(RR)=35 requiring orotracheal intubation and ventilation.

Within approximately an hour from admission the patient is rushed to the operating room(OR) where he undergone exploratory laparotomy. This procedure revealed a massive hemoperitoneum (more than 2 liters of blood and blood clots), a complete pancreatic necrosis (Figure 1) and a large peripancreatic retroperitoneal haematoma extending into the root of mesentery (Figure 2). A peripancreatic debridement was performed followed by lavage and drainage of the abdominal cavity. (Figure 3)

The patient is then transferred to the SICU(surgical intensive care unit) for further treatment including rehydration, correction of acid-base disturbances, antibiotics, artificial ventilation, vasopressors, packed red blood cells (RBC) and fresh frozen plasma (FFP). The patient remains in a critical condition and three hours later, due to a severe bradycardia

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and postoperative anemia (HGB=6 g/dL) he goes into cardiac arrest. The patient died despite the intensive resuscitative efforts.

The second case involves a 48 year old female with a significant history of acute relapsing pancreatitis, presenting to the emergency room with a 3 day onset of epigastric, mesogastric pain in addition to a dyspeptic syndrome.

On admission the blood analyses revealed cholestasis and an abnormal pancreatic enzyme panel (increased amylase and lipase). The abdominal ultrasound and CT showed a circumferential, 4/3 cm, pseudocyst-like, fluid containing structure engorging the head of the pancreas in addition to a peripancreatic fluid accumulation. During exploratory laparotomy was found a fissured pancreatic hematic cyst along with a retroperitoneal haematoma of 6/5 cm fused in the right prerenal fascia. A duodenopancreatic debridement is employed plus cystotomy with blood and blood clot drainage, intracystic hemostasis, lavage, intracystic and abdominal drainage. The postoperative follow-up was favorable with a reduction in size of the head of the pancreas and partial resolution of the RPH within four weeks after surgery (the size of the haematoma was 2.5/2cm).

Discussion. Even though the common denominator of the two afore-mentioned cases is acute pancreatitis complicated with retroperitoneal haematoma, one can easily point out the differences between them in terms of disease progression and outcome related to the specific etiology of the RPH. (4, 5)

Thus, in the first case the severity and the dramatic succession of events that lead to the onset of hemorrhagic shock and the urgency to perform an exploratory laparotomy stand in contrast with the second case, where thanks to a slower

pace, imaging investigations have been performed allowing the establishment of a more detailed diagnosis and a positive outcome.

In these cases, an ongoing bleeding within the retroperitoneal space is likely to be overlooked (thus the enhancing possibility of a hemorrhagic shock to set in) because the clinical manifestations are not specific and, more over, they are overlapped by other symptoms (in our case, acute pancreatitis). (3)

The latest imaging technologies (CT), as well as the usual ones (ultrasound) provide us the necessary information for a positive diagnosis. Selective angiography, as a both diagnostic and therapeutic procedure, is indicated in life-threatening bleedings caused by retroperitoneal vascular injuries.

The surgical intervention is the last step within the diagnostic "ladder".

Conclusions. The treatment of an acute pancreatitis can be hampered by a rare complication-RPH-because of the ensuing diagnostic and therapeutic issues (4, 5). The two afore-mentioned cases are situated at two different poles in terms of clinical approach, progress and outcome despite the fact that they share the same pathology. A massive, uncontrollable hemorrhage, that is usually diagnosed intraoperatively as being of retroperitoneal origin raises a lot of problems due to its multiple etiology.

If a retroperitoneal hemorrhage is insidious (the second case) it allows the surgeon to devise a therapeutic protocol enabling him to pinpoint the source of bleeding (5). In both cases the first and foremost intraoperative measure is to institute a duodenopancreatic debridement for hemostatic purposes. (3)

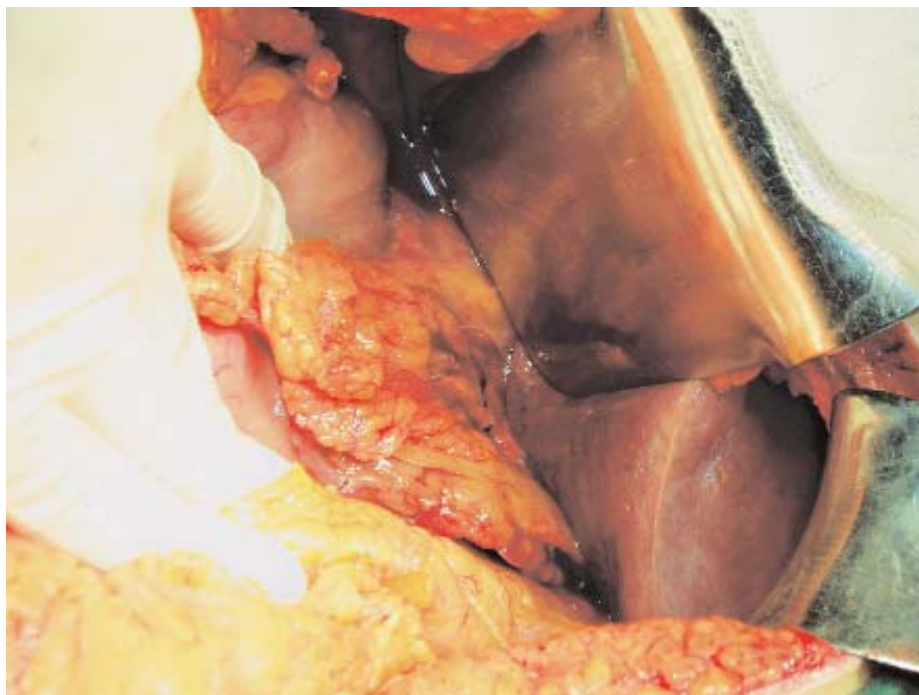
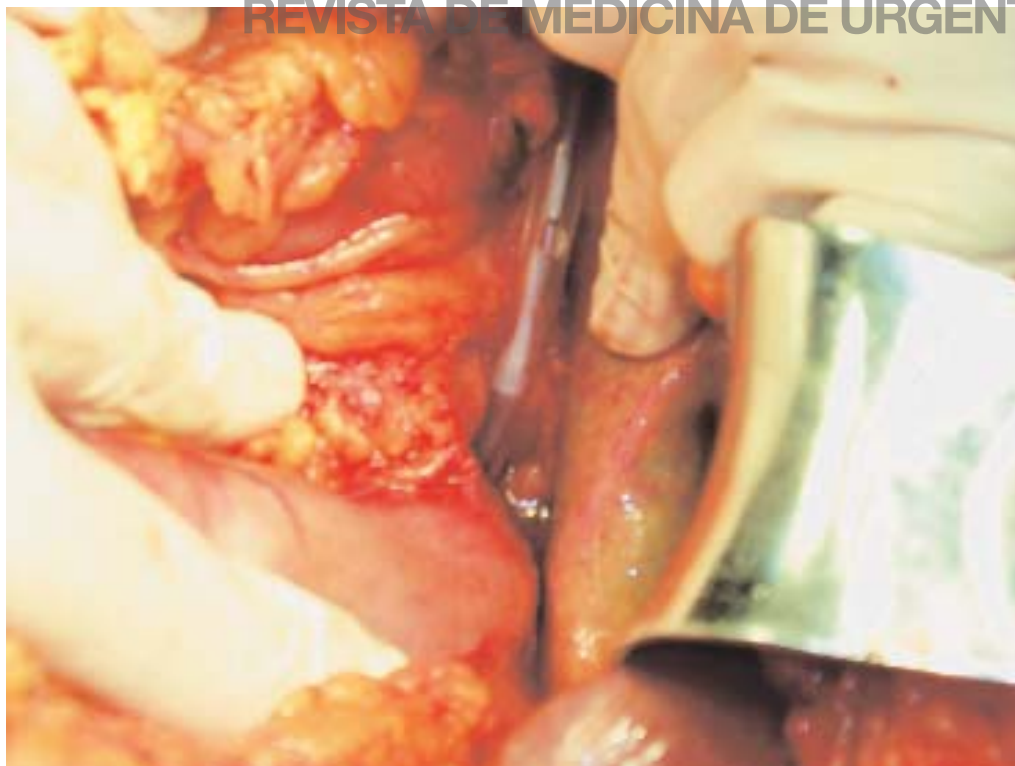


Figure 1. Intraoperative snapshot of acute hemorrhagic pancreatitis



Figure 2. Intraoperative snapshot of retroperitoneal peripancreatic haematoma extended into the root of mesentery

Figure 3. Intraoperative snapshot of peripancreatic drainage.



References

- 1 Bradley EL III: Later complications of acute pancreatitis. In: Glazer G, Ranson JHC: Acute pancreatitis: experimental and clinical aspects of pathogenesis and management. WB Saunders, Philadelphia, 1999, p 390-431.
- 2 Eckhauser FE, Stanley JC, Zelenock GB, Borlaza GS, Ferier DT, Lindenauer SM: Gastroduodenal and pancreaticoduodenal artery aneurysms: a complication of pancreatitis causing spontaneous gastrointestinal hemorrhage. Surgery 1980, 88: 335.
- 3 Trede M, Sir Carter DC, Longmire WP Jr: Surgery of the Pancreas, Second edition, Churchill Livingstone, NY 1997, p 275-280, p 609-619.
- 4 Stanley JC, Frey CF, Miller TA, Lindenauer SM, Child CG: Major arterial hemorrhage: a complication of pancreatic pseudocysts and chronic pancreatitis. Archives of Surgery 1976, 111: 435.
- 5 White AF, Baum S, Buranasiri S: Aneurysms secondary to pancreatitis. American Journal of Radiology 1976, 127: 393.

