

Nonsurgical Treatment of Infected Pancreatic Necrosis: A Falling Myth or a Still Impassable Frontier?

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Acute pancreatitis is a disease of increasing annual incidence associated with significant morbidity and mortality and with an increasing consumption of health care resources [1]. In particular, patients suffering from acute necrotizing pancreatitis who develop infected necrosis present a severe prognosis with mortality ranging from 20% to 70% [2, 3]. The diagnosis of infected pancreatic necrosis is usually based on Gram stain and cultures of material obtained from the necrotic area by fine-needle aspiration. On a clinical basis, infected pancreatic necrosis should be suspected in the presence of worsening abdominal pain, fever, and leukocytosis, usually 1-2 weeks after disease onset. In accordance with the current recommendations [4], sterile necrosis should be managed conservatively, whereas the occurrence of infected pancreatic necrosis requires immediate surgery. The standard approach to infected pancreatic necrosis has been open surgical debridement with a variety of drainage and closure techniques (multiple drainages, marsupialization of the lesser sac, continuous or intermittent lavage, unique or repeated necrosectomy, etc.) [5]. So, the paradigm “infected pancreatic necrosis = surgery” seems to be an accepted principle in clinical pancreatology. However, over the last ten years some controversies have arisen regarding this topic. In fact, some reports have shown that early surgical intervention for pancreatic necrosis could result in a worse prognosis in comparison with patients who

underwent surgery in a later phase of the disease [6, 7]. In addition, some reports have shown surprisingly enough, the efficacy of nonsurgical management for infected pancreatic necrosis [8, 9, 10, 11].

Recently, an interesting clinical study carried out at the Universities of Goyang and Seoul, Korea [12], have added new fuel to this debateable issue. The study group consisted of 77 patients with acute necrotizing pancreatitis (from a total series of 224 patients with acute pancreatitis observed between January 2000 and April 2004), documented by contrast-enhanced computed tomography (CECT). Infection of pancreatic necrosis was detected in 31 (40.3%) of 77 patients with acute necrotizing pancreatitis. The criteria for infected necrosis were: a) intrapancreatic or extrapancreatic necrosis within four weeks after the onset of acute pancreatitis; b) the absence of “major” collections of pus; and c) the identification of a bacterial organism by fine-needle aspiration (FNA) from the necrotic area or the presence of free gas in the pancreas on CECT. An important issue was related to the exclusion of patients with a pancreatic abscess and/or with an infected pseudocyst. All patients with infected pancreatic necrosis were managed medically as follows: a) intravenous fluids and colloids; b) total parenteral nutrition until oral intake was possible; c) analgesics to control pain; d) ventilator care when indicated, and hemodialysis or hemofiltration in cases with ongoing renal insufficiency; and e)

prophylactic antibiotics within 48 hours of admission (an appropriate antibiotic regimen was started once the causative microorganism was isolated and the susceptibility tests were available). In addition, percutaneous drainage with massive irrigation (3-4 L of saline twice a week) was performed if the area of infected necrosis was extensive or if medical treatment alone did not improve the patients' condition. As an alternative, for patients with infected pancreatic necrosis localized near the stomach or duodenum as observed with CECT and having a clear compression as observed using endoscopy, transgastric or transduodenal endoscopic drainage was applied. Surgical treatment was planned only when the results of the initial medical treatment, including percutaneous or endoscopic drainage, revealed no clinical improvement. The results were as follows: a) eight patients (25.8%) were successfully treated with antibiotics only; b) 23 patients (74.2%) required drainage procedures; c) surgical necrosectomy was necessary in 4 patients (12.9%) because of a worsening clinical course (there were no post-operative mortalities nor serious complications); d) one patient died without having undergone surgery; e) therefore, infection was controlled in 26 patients (83.9%); f) all of the patients, except one (96.8%), recovered from acute necrotizing pancreatitis with infected necrosis using this conservative therapy.

The final results of this study are quite impressive, especially if one considers the previously reported experiences regarding the efficacy, complications and mortality resulting from immediate surgical necrosectomy for infected pancreatic necrosis [13, 14]. The mortality rate reported in this study was very low (3.2%) and the authors stated that this may be attributed to delaying the surgery as long as possible. Recently, other reports have been in agreement with the philosophy of performing surgery later in the course of acute necrotizing pancreatitis [15]. However, even if this cohort of patients had no control group managed surgically, the final message of the present study is that intensive nonsurgical treatment is very effective and

safe in acute necrotizing pancreatitis and it should also be considered as an initial treatment modality for patients with infected necrosis. Avoiding or delaying surgery in this critically-ill group of patients opens a new and favorable frontier in clinical practice.

"... nihil aequae sanitatem impedit quam remedium crebra mutatio; ..."

L. Annaei Senecae Epistularum Moralium ad Lucilium. (Liber Primus; Epistula II: Seneca Lucilio Suo Salutem)

"... frequently changing the therapy is the major drawback to healing; ..."

Lucius Annaeus Seneca (Seneca the Younger, ca. 4 BC - AD 65)

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