

# Minimally-invasive methods of acute pancreatic post necrotic pseudocyst treatment

Nazar Omelchuk

Ivano-Frankivsk National Medical University, Ukraine E-mail: [dr.nazaromelchuk@gmail.com](mailto:dr.nazaromelchuk@gmail.com)

## Abstract

**Statement of the Problem:** Acute necrotic pancreatitis (ANP) remains complicated problem of urgent surgery due to high frequency of systemic, purulent and septic complications, rate, which is in patients with infected pancreonecrosis 14.7-26.4%.**Purpose:** the aim of this study is to judge efficiency and establish indications for minimally invasive methods of treatment of post-necrotic pseudocyst of pancreas.**Methodology & Theoretical Orientation:** For diagnostics ultrasonography was used, diagnostic laparoscopy, helical CT with contrast strengthening. Endoscopic interventions were applied by.**Findings:** In 82 (68.2%) patients were applied minimally invasive methods of treatment; Percutaneous external drainage in 38 (46.3 %) patients, endoscopic transmural drainage of post-necrotic pseudocyst in 22 (26.85%) patients. Combined endoscopic interventions were applied in 22 (26.85%) patients. particularly, endoscopic transmural drainage with temporary stenting of epithelial duct in 11 (50%) patients, endobiliary stenting with temporary stenting of channel in 5 (22.7%)

patients, temporary stenting of channel in 4 (18.2%) patients, endoscopic transmural drainage with percutaneous external drainage in 2 (9.1%) patient.**Conclusion & Significance:** Usage of combined minimally invasive methods of treatment of acute necrotic pancreatitis complicated by post-necrotic pseudocyst help to enhance results of treatment, reduction of complications amount, contraction of stationary treatment terms and improving of life quality. Most cases of acute pancreatitis are self-limited and resolve without serious complications. However, severe acute pancreatitis is related to the event of probably life-threatening complications including pancreatic necrosis and pancreatic abscess. The 1992 international consensus conference held in Atlanta established uniform terminology for acute pancreatitis and its complications. in line with the Atlanta Classification, pancreatic necrosis refers to diffuse or focal areas of nonviable pancreatic parenchyma, typically related to peripancreatic fat necrosis, whereas pancreatic abscess is defined as a circumscribed intra-abdominal collection of pus, usually in proximity to the pancreas arising as a consequence of acute pancreatitis or pancreatic trauma[1]. Treatment for pancreatic necrosis has evolved considerably over the past decade with

relevancy both the timing of intervention and also the development of alternatives to traditional open necrosectomy. Pancreatic necrosis is also sterile or infected. The prognosis (with or without intervention) is far worse for infected than sterile necrosis. Historically, early surgical intervention was considered mandatory for cases of suspected infection. The 2002 International Acute Pancreatitis (IAP) guidelines recommended early fine-needle aspiration to discriminate between sterile and infected pancreatic necrosis, with continued non-operative management for stable or improving patients with sterile necrosis but surgical intervention for those with documented infection[2]. the normal surgical approach to infected necrosis was open necrosectomy with the goals of wide drainage of all infected compartments and complete removal of all necrotic tissue with the position of drains for continuous postoperative closed lavage. Frequently, repeat laparotomy was needed to make sure complete debridement[2].

Historically, open necrosectomy was related to substantial morbidity and rates of perioperative mortality that exceeded 50% in some reports[3,4], although mortality in some contemporary series has been 11% or lower[5,6]. Because various studies showed high mortality with early operation for severe necrotizing pancreatitis, the IAP recommended avoidance of surgical intervention within the primary 14 d after onset unless there was progressive multiple organ failure and clinical deterioration. Subsequent studies suggested that morbidity and mortality is further reduced if operation is delayed beyond 28-30 d[7], presumably because the extended interval allows sufficient demarcation between normal and necrotic tissue, thereby reducing the danger of inciting overwhelming postoperative septic and systemic inflammatory responses, furthermore because the risk of intraoperative injury to surrounding organs and hemorrhage. In addition to the open approach for pancreatic necrosis and abscess, the last 20 years have caused alternative "minimally-invasive" techniques. Percutaneous drainage of infected pancreatic necrosis has been shown to be safe and effective in highly-selected patients[8,9], but multiple procedures are often needed, and adjunctive treatment is commonly required. Gagner[10] first described minimally invasive surgical operation of necrotizing pancreatitis in 1996, including laparoscopic retrocolic,

Retroperitoneoscopic, and transgastric procedures. Over the past 15 years, variety of other minimally invasive surgical, endoscopic, and radiological approaches to empty and debride pancreatic necrosis are described. These alternatives appear to be feasible and safe, although comparisons among approaches are difficult because of small numbers, lack of uniform reporting criteria, and ranging degrees of operator dependence.

the appearance of a number of these alternatives has led to reconsideration of a number of the basic tenets of open surgical necrosectomy, particularly with relevancy the timing and completeness of debridement. during this report, we review current techniques of minimally invasive pancreatic necrosectomy.

**This work is partly presented at 14th Euro-Global Gastroenterology Conference**