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Severe acute pancreatitis in the community: confusion reigns

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ARTICLE INFO

Article history:
Received 3 January 2015
Received in revised form
3 April 2015
Accepted 15 April 2015
Available online 21 April 2015

Keywords:
Acute pancreatitis
Practice guidelines
Nutrition
Antibiotics
Necrosectomy

ABSTRACT

Background: The management of acute pancreatitis (AP) has evolved through enhanced understanding of the disease. Despite several evidence-based practice guidelines for AP, our hypothesis is that many hospitals still use historical treatments rather than adhere to the current guidelines, which have demonstrated shorter hospital stays, decreased infectious complications, decreased morbidity, and decreased mortality.

Materials and methods: Seventy-eight patients transferred to our institution with AP from 2010–2014 were retrospectively studied to compare pretransfer *versus* posttransfer adherence to current practice guidelines. Primary measures included use of antibiotics (abx), enteral nutrition, drainage of asymptomatic pseudocysts, and interventions for necrosis in the early phase (<4 wk).

Results: Pretransfer, abx were given to 51 patients; however, posttransfer, abx were discontinued in 33 patients and started in 6 patients within 24 h of admission (pretransfer *versus* posttransfer abx, 51 *versus* 24, $P < 0.001$). Empiric abx for AP were used in 36 patients pretransfer *versus* 9 patients posttransfer ($P < 0.001$). Patients were initially nil per os or on total parenteral nutrition in 89%; this was reduced to 17% within 72 h by starting a diet or enteric feeds (pretransfer *versus* posttransfer feeding, 9 *versus* 65 patients, $P < 0.001$). Fifteen transfer patients had pseudocysts that were believed to "require drainage"; five patients received intervention but >4 wk from initial episode of AP. Pretransfer, five patients had pancreatic debridement in the early phase, which resulted in prolonged postoperative length of stay compared with eight patients requiring debridement, which were delayed (early *versus* late, 56 *versus* 16 d, $P < 0.05$).

Conclusions: There is still great confusion in the treatment of AP in community hospitals. Primary principles in the care of these patients are not routinely followed despite established guidelines. Increased dissemination is required to prevent lengthy hospitalizations and long-term morbidity.

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0022-4804/$ – see front matter © 2015 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jss.2015.04.054

1. Introduction

In the last decade, there have been several substantial developments in the treatment of acute pancreatitis (AP). Clinically, up to 20% of patients with AP are classified as severe [1]; however, improved understanding of the pathophysiology of organ failure in severe AP and outcomes of necrotizing pancreatitis have made it necessary to revise the previously universally accepted Atlanta Classification system for AP [2]. The new 2012 revision, created by an international consensus, was to provide more objective terms to describe the terminology of severe AP and its complications based on the natural history of the condition and better imaging techniques available [3,4]. Local complications of AP are defined as peripancreatic fluid collections, pancreatic and peripancreatic necrosis (sterile or infected), pseudocysts, and walled-off necrosis. Mortality of necrotizing pancreatitis ranges from 15% in patients with sterile necrosis to up to 40% in those with infected necrosis, which can occur at some point in the clinical course in about one-third of patients with necrosis [1,5,6]. The care of patients with severe AP or necrotizing pancreatitis should ideally include a team of specialists in intensive care medicine, gastroenterology, interventional endoscopy, interventional radiology, and surgery. However, there remains a wide variation in clinical practice as physicians with quite varied training (surgical *versus* medical, and so forth) and experience may be responsible for managing these patients.

Recognition of the challenges of managing this complex disease has been the impetus for a number of publications reviewing the different treatments and techniques in the management of AP. Recently, the American College of Gastroenterology published practice guidelines for AP patients based on a systematic literature search, added commentary, and remarks from leading pancreatologists worldwide and a critical appraisal of the evidence according to the Grading of Recommendations, Assessment, Development, and Evaluation approach to systemic reviews and guideline development. This was focused largely on early medical management strategies, but included a discussion of the sequelae of complicated disease (necrotizing pancreatitis) in efforts to advance our understanding of this disease process and decrease overall morbidity and mortality. These practice guidelines specifically cover the evolving issues of hydration, antibiotics (abx), nutrition, timing, and type of minimally invasive interventions (endoscopic and surgical) in severe AP [7]. Similarly, the leadership of both the International Association of Pancreatology and the American Pancreatic Association have published evidence-based guidelines for the multidisciplinary management of AP, again addressing the key clinical questions as follows: diagnosis, prediction of severity, imaging, fluid therapy, intensive care management, preventing infections complications, nutritional support, biliary tract management, indications, timing and intervention strategies for necrotizing pancreatitis, and timing of cholecystectomy [8].

However, despite the public availability of these widely accepted guidelines, as well as the educational programs sponsored by many society meetings—offering a multidisciplinary, evidence-based approach with concrete recommendations on the key aspects of medical and surgical management of AP—our hypothesis is that many hospitals still use outdated, anecdotal treatment practices in managing AP, rather than making the change to strictly adhere to the current best practice guidelines that should serve as a new reference standard for the current management of AP.

2. Materials and methods

2.1. Patients and clinical data collection

All patients transferred to Stanford University Medical Center with the diagnosis of AP from 2010–2014 were identified by searching our prospective database maintained by the Stanford Hospital adult transfer center. Specific patient data were retrospectively collected using our hospital electronic medical record after institutional review board approval was obtained. Patient charts, radiology reports, and procedure notes were reviewed to compare pretransfer (referring hospital) *versus* posttransfer (home institution) transfer adherence to practice guidelines for the management of AP. Primary measures examined included use of empiric abx, absence of enteral nutrition, need for drainage of routine pseudocysts, and intervention for pancreatic necrosis in the early phase (<4 wk). Our standard initial approach to patients with severe AP who were transferred to our institution is listed in the Figure.

2.2. Statistical analysis

Continuous data are expressed as mean ± standard error of the mean for parametric data or median (interquartile range [IQR]) for nonparametric data. Categorical variables are reported as number and percentage. Continuous variables were compared by Student *t*-test (laboratory values) and the Mann–Whitney *U* test when data were not normally distributed. Categorical frequencies were compared by Fisher exact test; statistical significance was set at $P < 0.05$ for all comparisons. Descriptive statistical analysis was performed using GraphPad Prism version 6.00 for Windows; GraphPad Software, La Jolla, CA, www.graphpad.com.

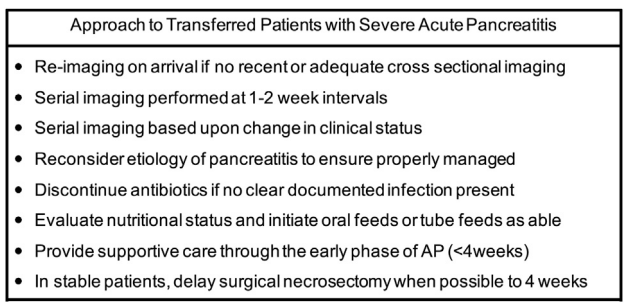

Figure – Optimization of patient care in patients with severe AP.