Scandinavian Journal of Gastroenterology

ISSN: 0036-5521 (Print) 1502-7708 (Online) Journal homepage: www.tandfonline.com/journals/igas20

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To cite this article: Roland Andersson, Daniel Ansari, Hanna Sternby & Valentinus Valdimarsson (2021) Acute pancreatitis – can evidence-based guidelines be transferred to an optimized comprehensive treatment program?, Scandinavian Journal of Gastroenterology, 56:10, 1220-1221, DOI: 10.1080/00365521.2021.1953577

To link to this article: https://doi.org/10.1080/00365521.2021.1953577

SCANDINAVIAN JOURNAL OF GASTROENTEROLOGY
2021, VOL. 56, NO. 10, 1220–1221
https://doi.org/10.1080/00365521.2021.1953577

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EDITORIAL

Acute pancreatitis – can evidence-based guidelines be transferred to an optimized comprehensive treatment program?

Background

Acute pancreatitis is a common cause of hospitalization and has an incidence of about 300 per 1,000,000 inhabitants. A majority of patients with acute pancreatitis have mild disease, with an absence of local and systemic complications [1]. The clinical, translational, and experimental research in the field of acute pancreatitis is enormous and various guidelines exist. The guidelines have improved, and now increasingly use evidence-based grading, although expert opinion is still part of numerous recommendations.

A persistent problem, however, is the uptake of and compliance with these guidelines. For every guideline recommendation, we should need an implementation plan and an audit. This was pointed out in an editorial in the Scandinavian Journal of Gastroenterology in 2008 [2]. It is reasonable to assume that adherence to existing management recommendations improves clinical outcomes for patients with acute pancreatitis.

Lessons learned from elective surgery

Henrik Kehlet introduced, in the year 1997, the enhanced recovery programs (ERP, fast-track, ERAS) [3]. The concept has since been adopted in a majority of elective surgical procedures. The key elements of a recovery program should have the highest attainable grade of evidence. To a large extent, an optimized treatment program can also apply to acute abdominal disorders like acute pancreatitis. For instance, a cornerstone in the management of acute pancreatitis is goal-directed fluid therapy [4]. Fluid resuscitation decreases the inflammatory response and improves clinical outcomes [5,6]. Similarly, oral or enteral nutrition is recommended irrespective of the disease severity. For mild disease, immediate oral feeding has, for example, been reported to decrease hospital stay and reduce costs [7] and early enteral nutrition (within 24 h) reduce complications ([8]; meta-analysis). In a multicenter randomized clinical trial, early nasoenteric tube feeding was compared with an oral diet after 74 h, though, without reducing the primary objectives being the rate of infection or death in patients with predicted severe acute pancreatitis [9]. Further important aspects of the enhanced recovery concept and initial treatment are early mobilization, pain management, adherence to a step-up approach including delayed insertion of drains, and, when needed, use of minimally invasive procedures [10–12].

Guidelines for the management of acute pancreatitis and some reflections on implementation

Many international (and national) guidelines for the management of acute pancreatitis are available and provide us with current levels of evidence and grades of recommendations [4,13]. Although there have been advances in our understanding of the complex pathogenesis of acute pancreatitis and its relation to physiological alterations, few modifications of the standard treatment have occurred over the past years. The guidelines help us identify important elements and provide us with the best possible recommendations for disease management. Concurrently, guidelines are vivid documents in need of continuous updates. If not complied with and adhered to, mutually defined recommendations are futile gestures regardless of the level of evidence. Consequently, validation and audits are essential.

High level evidence-based items from the guidelines [4,13], potentially applicable in a comprehensive treatment program, are summarized in Table 1, which includes recommendations according to the GRADE system [14].

There has been slow, but improved compliance for some parameters, for example, same-admission cholecystectomy and decreased use of routine prophylactic antibiotics [15–17].

Future management of acute pancreatitis – optimized comprehensive treatment programs

An abbreviated enhanced recovery program for patients with acute pancreatitis can be established with already identified evidence-based management goals that can easily be transferred into everyday clinical decision-making. The program needs to be well designed, well prepared, and involving all 'stakeholders' according to local resources and standards [18]. Through such a program, implementation of key components is guaranteed, and the overall outcome will most probably improve. To date, the feasibility of an enhanced recovery approach in acute pancreatitis is scarcely investigated, despite solitary attempts to assess specific clinical pathways and programs in mild disease [19–21]. These small studies do, however, demonstrate safe prevention of hospitalization and earlier time to refeeding. A secondary positive outcome could accordingly be the shortening of hospital stay without increased patient risk.

It is also important to maintain compliance with the enhanced recovery protocol after its introduction so as not to reduce effectiveness over time. Retaining the enhanced recovery program coordinator and providing continuous updates,

Table 1. Acute pancreatitis (AP) high-level evidence-based items.

Item	Recommendation	Grade
Etiology	Ultrasound (acute biliary AP)	1B
Severity prediction	SIRS (systemic inflammatory response syndrome) persistent at 48 h	2B
Imaging	CT (initial (when diagnostic difficulties), failure to respond, deterioration; otherwise wait 5–7days)	1 C
Fluid therapy	Initial fluid resuscitation (Ringer's lactate)	1B
Intensive care treatment	Severe AP, persistent organ failure	1C
Specialist center (referral)	Severe AP, need for intervention (radiology, endoscopy, surgery)	1C
Antibiotic prophylaxis	i.v. antibiotic prophylaxis not recommended	1B
Nutritional support	Oral feeding, mild AP	2B
	Enteral tube feeding in severe AP (if required)	1B
	Parenteral nutrition (if required)	2C
Biliary	Urgent ERCP in acute cholangitis	1A
	ERC when common bile duct obstruction	1C
Necrotizing pancreatitis	Intervention (radiological, endoscopical, surgical); step-up	1A
	Indication: infection, clinical deterioration, organ failure, if possible delay at least 4 weeks	1C
Timing of cholecystectomy	During index admission (mild AP)	1 C
	Delayed when peripancreatic collection (safe cholecystectomy)	2C
Pseudocysts	No treatment if asymptomatic	1C
	Minimal-invasive (endoscopy, EUS, radiology)	1C
	Surgery if needed after failure of minimal-invasive procedures	1B

reminders, and education sessions may help preserve sustainability [22].

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

[1] Banks PA, Bollen TL, Dervenis C, et al.; Acute Pancreatitis Classification Working Group. Classification of acute pancreatitis-2012: revision of the Atlanta classification and definitions by international consensus. Gut. 2013;62(1):102–111.
[2] Andersson R. Compliance with guidelines for the management of acute pancreatitis: a protocol is not enough. Scand J Gastroenterol. 2008;43(5):515–517.
[3] Kehlet H. Multimodal approach to control postoperative pathophysiology and rehabilitation. Br J Anaesth. 1997;78(5):606–617.
[4] Working Group IAP/APA Acute Pancreatitis Guidelines. IAP/APA evidence-based guidelines for the management of acute pancreatitis. Pancreatology. 2013;13(4 Suppl 2):e1–e15.
[5] Buxbaum JL, Quezada M, Da B, et al. Early aggressive hydration hastens clinical improvement in mild acute pancreatitis. Am J Gastroenterol. 2017;112(5):797–803.
[6] de Madaria E, Herrera-Marante I, Gonzalez-Camacho V, et al. Fluid resuscitation with lactated Ringer's solution vs normal saline in acute pancreatitis: a triple-blind, randomized, controlled trial. United Eur Gastroenterol J. 2018;6(1):63–72.
[7] Eckerwall G, Tingstedt B, Bergenzaun P, et al. Immediate oral feeding in patients with mild acute pancreatitis is safe and may accelerate recovery – a randomized clinical study. Clin Nutr. 2007;26(6):758–763.
[8] Bakker OJ, van Brunschot S, Farre A, et al. Timing of enteral nutrition in acute pancreatitis: meta-analysis of individuals using a single-arm of randomised trials. Pancreatology. 2014;14(5):340–346.
[9] Bakker OJ, van Brunschot S, van Santvoort HC, Dutch Pancreatitis Study Group, et al. Early versus on-demand nasoenteric tube feeding in acute pancreatitis. N Engl J Med. 2014;371(21):1983–1993.
[10] Kim BJ, Aloia TA. What is "Enhanced Recovery," and How Can I Do It? J Gastrointest Surg. 2018;22(1):164–171.
[11] van Grinsven J, van Dijk SM, Dijkgraaf MG, Dutch Pancreatitis Study Group, et al. Postponed or immediate drainage of infected necrotizing pancreatitis (POINTER trial): study protocol for a randomized controlled trial. Trials. 2019;20(1):239.
[12] Stigliano S, Sternby H, de Madaria E, et al. Early management of acute pancreatitis: a review of the best evidence. Dig Liver Dis. 2017;49(6):585–594.
[13] Leppäniemi A, Tolonen M, Tarasconi A, et al. 2019 WSES guidelines for the management of severe acute pancreatitis. World J Emerg Surg. 2019;14:27.
[14] Guyatt GH, Oxman AD, Vist GE, GRADE Working Group, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008;336(7650):924–926.
[15] Andersson R, Andersson B, Haraldsen P, et al. Incidence, management and recurrence rate of acute pancreatitis. Scand J Gastroenterol. 2004;39(9):891–894.
[16] Ragnarsson T, Andersson R, Ansari D, et al. Acute biliary pancreatitis: focus on recurrence rate and costs when current guidelines are not complied. Scand J Gastroenterol. 2017;52(3):264–269.
[17] da Costa DW, Bouwense SA, Schepers NJ, Dutch Pancreatitis Study Group, et al. Same-admission versus interval cholecystectomy for mild gallstone pancreatitis (PONCHO): a multicentre randomised controlled trial. Lancet. 2015;386(10000):1261–1268.
[18] Grol R. Successes and failures in the implementation of evidence-based guidelines for clinical practice. Medical Care. 2001;39:II-46–II-54.
[19] Kothari D, Babineau M, Hall M, et al. Preventing hospitalization in mild acute pancreatitis using a clinical pathway in the emergency department. J Clin Gastroenterol. 2018;52(8):734–741.
[20] Dong E, Chang JI, Verma D, et al. Enhanced recovery in mild acute pancreatitis: a randomized controlled trial. Pancreas. 2019;48(2):176–181.
[21] Ince AT, Senturk H, Singh VK, et al. A randomized controlled trial of home monitoring versus hospitalization for mild non-alcoholic acute interstitial pancreatitis: a pilot study. Pancreatology. 2014;14(3):174–178.
[22] Ljungqvist O, Scott M, Fearon KC. Enhanced recovery after surgery: A review. JAMA Surg. 2017;152(3):292–298.

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Received 3 May 2021; revised 8 June 2021; accepted 5 July 2021