The Value of a 24/7 Online Nationwide Multidisciplinary Expert Panel for Acute Necrotizing Pancreatitis

Acute pancreatitis is the most common gastrointestinal reason for acute hospitalization.[1] Approximately 20% of patients with acute pancreatitis develop necrotizing pancreatitis.[2,3] In approximately 30% of these patients, secondary infection of the necrosis occurs, which almost always requires an invasive intervention.[4,5] Diagnosing infected necrosis on clinical grounds can be difficult. Furthermore, even if infected necrosis is proven, international guidelines advise to postpone invasive intervention to around 4 weeks after disease onset.[6,7] This allows for necrotic collections to encapsulate (ie, walled-off necrosis), thereby technically facilitating intervention and reducing the risk of complications such as perforation and bleeding.[6,7] However, the clinical condition of some patients does not permit a delay in intervention. Clinical decision making regarding the indications for and timing of invasive intervention and preferred approach (percutaneous, surgical, or endoscopic) can, therefore, be challenging.[8] Moreover, the incidence of infected necrotizing pancreatitis is low and even tertiary referral centers may only treat 10–15 patients per year.[9]

Several international, multidisciplinary, and multicenter approaches have been initiated to improve the care for patients with pancreatitis and facilitate clinical research. In recent years, multiple national study groups have been formed worldwide, for example, in the Netherlands, the United States, Germany, Switzerland, and Hungary.[10–14] Also evidence- and consensus-based guidelines were composed by international experts in the field.[6,7,15,16] International scientific collaborations were initiated, for example, Pancreas2000 (www.pancreas2000.org) and PANCREA (Pancreatitis Across Nations Clinical Research and Education Alliance).[17,18] National and international multidisciplinary surveys were published in an attempt to identify differences and similarities in pancreatitis management strategies.[8,19–21] Finally, several studies have been published that suggested clinical benefit of centralization of pancreatitis care in high-volume centers.[22–26]

In 2006, the Dutch Pancreatitis Study Group (DPSG) introduced another approach to improve the outcome of patients with pancreatitis: We launched a 24/7, online, nationwide, multidisciplinary expert panel for clinicians treating patients with acute necrotizing pancreatitis.[27] This panel aimed to aid all Dutch clinicians in difficult clinical decisions concerning these patients, with treatment advice and assessment of eligibility for ongoing nationwide randomized trials. This report describes the rationale and design of this expert panel and the results of a prospective evaluation among the consulting clinicians and consulted experts.

The expert panel currently consists of 7 surgeons, 4 gastroenterologists, and 4 radiologists with vast experience in treating patients with necrotizing pancreatitis. Initially, the expert panel was instituted to assess eligibility for enrollment in the randomized PANTER trial.[10] During the subsequent PENGUIN trial, TENSION trial [ISRCTN09186711], and the ongoing POINTER trial [ISRCTN33682933], the expert panel proved to be of great value for assessing patient eligibility.[28,29] Soon after implementation, the expert panel became a well-known and widely used consultation board for physicians in all Dutch hospitals regarding the management of necrotizing pancreatitis patients regardless of whether they participated in a trial. In 2009, the expert panel was runner-up for the Health-Safety-Prize of the Dutch Health Care Inspectorate.

The expert panel is consulted by filling out a form available on the DPSG website www.pancreatitis.nl (Supplementary Figure 1). The consulting clinician provides anonymous patient information, including medical history, clinical course, vital and inflammatory parameters, results from microbiologic cultures, previous interventions, and selected images from the most recent computed tomography (CT) scan. The expert form is e-mailed to the coordinating research fellow at the DPSG datacenter and then forwarded to the members of the expert panel who are alerted by a text message via mobile phone. The experts independently return their advice to the coordinating research fellow as soon as possible. Within 24 hours, the bundled expert advices are forwarded to the consulting clinician (Figure 1).

Between 2010 and 2014, a total of 397 patients with acute necrotizing

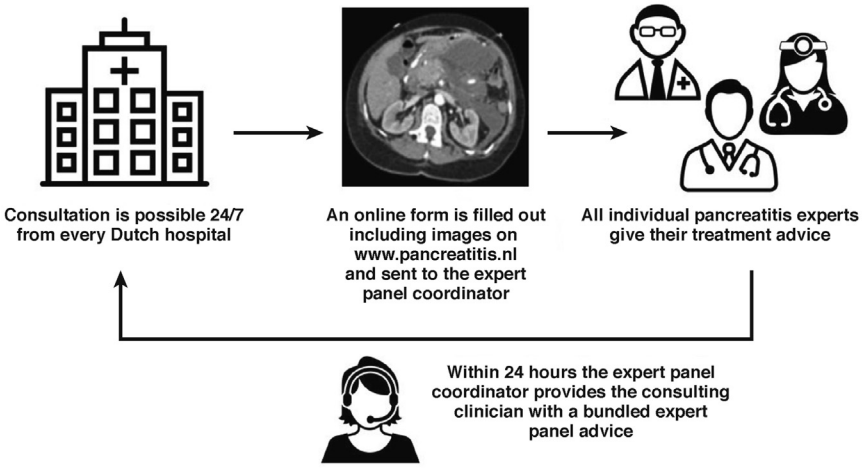

Figure 1. Work flow expert panel consultation.

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pancreatitis were assessed by the expert panel (see Supplementary Materials and Methods). The number of consultations increased annually, from 30 consultations in 2010 to 111 consultations in 2014 (Supplementary Figure 2). The majority of requests were received from clinicians in nonacademic centers (327/397, 82%) and gastroenterology departments (217/397 [55%]; Table 1). Consultations were requested outside office hours in 191 cases (48%). In 299 cases (75%), the expert panel's advice was returned to the clinician within 24 hours. A median response rate of 7 of the 15 experts (47%) was seen. In most cases, the majority of experts agreed (ie, ≥75% consensus) on the indication for invasive intervention and approach feasibility. Differing (50/50) advice concerning the indication for invasive intervention was given in 42 cases (11%). Differing advice concerning the technical feasibility of a surgical, endoscopic, and percutaneous approach was given in 16 (4%), 26 (7%), and 10 (3%) cases, respectively.

Clinicians completed a survey in 157 of the 397 consultations (40%; Supplementary Table 1). The expert panel was easily accessible according to 148 of 157 clinicians (94%) and 138 clinicians (88%) considered it a valuable tool. In total, 132 of 157 clinicians (84%) reported to have followed the expert advice. Among clinicians who answered the question, the expert advice was similar to their own opinion for 132 (84%). In total, 132 clinicians (84%) valued the advice as support for their medical decision.

All 15 experts completed a survey, with a mean experience of 17 years (SD 8) of treating necrotizing pancreatitis patients (Supplementary Table 2). They reported a mean workload of 9 minutes (SD 3) per expert advice. According to 14 of the 15 experts (93%), the provided clinical information was usually sufficient to give a treatment advice. Moreover, 12 of the 15 experts (80%) suggested that the availability of full CT study would be of additional value compared with receiving selected CT images.

To our knowledge, this is the first description of a 24/7, online,

Table 1. Characteristics of Expert Panel Consultations for Necrotizing Pancreatitis (2010–2014; n = 397 cases)

	n (%)
Requests	
Nonacademic centers	327 (82)
Request from	
Gastroenterologist	217 (54)
Surgeon	56 (14)
Intensive care physician	56 (14)
Other	2 (1)
Unknown	66 (17)
Request during office hours*	206 (52)
Initial admission to expert panel consultation, d (IQR)	26 (16-46)
Patients	
Male	280 (71)
Age patient (SD)	57 (±14)
Disease etiology	
Biliary	160 (40)
Alcoholic	80 (20)
Unknown	104 (26)
Other	53 (14)
Patient admitted to	
ICU/MC	133 (33)
Ward	249 (62)
Pediatrics	2 (1)
Outpatient clinic	7 (2)
Unknown	6 (2)
Organ failure	
Single	51 (13)
Multiple	(13) 55 (14)
Temperature ≥ 38.5°C	115 (29)
C-reactive protein (IQR)	200 (123-286)
Leucocytes (IQR)	15 (10-21)
Positive cultures	
None	218 (55)
Blood	107 (27)
Sputum	39 (10)
Ascites	27 (7)
Pancreatic drain	27 (7)
Fine needle aspiration	23 (6)
Urine	15 (4)
Feces	12 (3)
Perineum	3 (1)
Wound	2 (1)
Antibiotics started	285 (72)
Diet	
Oral	109 (27)
Enteral tube	205 (52)
Trans parental	27 (7)
Nil per mouth	17 (4)
Combination	36 (9)
Unknown	3 (1)
Disease severity score† (IQR)	7 (5-8)
Number of imaging slices (IQR)	9 (5-11)
Imaging to expert panel consultation, d (IQR)	1 (0-3)
Expert panel advice	
Expert advice returned within 24 h	299 (75)
Number of expert responses within 24 h‡ (SD)	6 (±2)
Number of expert responses total‡ (SD)	7 (±2)
Advice: indication for invasive intervention	
75%-100% no	208 (52)
50%-50%	42 (11)
75%-100% yes	147 (37)

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