The NEW ENGLAND JOURNAL of MEDICINE

Acute Pancreatitis

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About the Journal and Method

- The New England Journal of Medicine is a weekly medical journal published by the Massachusetts Medical Society.
- Impact factor(2018) 70.67
- Review article

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Outline

- Etiology
- Epidemiology
- Diagnosis and classification
- Prediction of severity
- Management
- Long term consequences
- Prevention of relapse

Etiology

Cause	Diagnostic clue
Gallstone	Gallbladder stones or sludge, abnormal liver-enzyme levels
Alcohol	Acute flares superimposed on underlying chronic pancreatitis
Hypertriglyceridemia	Fasting triglycerides >1000 mg/d
Genetic causes	Recurrent acute and chronic pancreatitis
Drugs	Other evidence of drug allergy only in rare cases
Autoimmune	Type 1: obstructive jaundice, elevated serum IgG4 levels, response to glucocorticoids; type 2: possible presentation as acute pancreatitis; occurrence in younger patients; no IgG4 elevation; response to glucocorticoids

Etiology

Cause	Diagnostic clue
ERCP	
Trauma	**Blunt or penetrating trauma, particularly in midbody of pancreas as it crosses spine**
Infection	**Viruses: CMV, mumps, and EBV most common; parasites: ascaris and clonorchis**
Surgical complication	
Obstruction	**Celiac disease and Crohn's disease, pancreas divisum (controversial), and sphincter of Oddi dysfunction (very controversial**
Associated conditions	**Diabetes, obesity, and smoking**

Epidemiology

- Rising incidence of acute pancreatitis
- Mortality approximately 2%

Diagnosis and classification

- Abdominal pain consistent with acute pancreatitis
- Serum lipase or amylase levels at least 3 times the upper limit of the normal
- Findings of acute pancreatitis on cross-sectional imaging

Diagnosis and classification

- Based on complications

  systemic : -organ failure
  - exacerbation of comorbidities

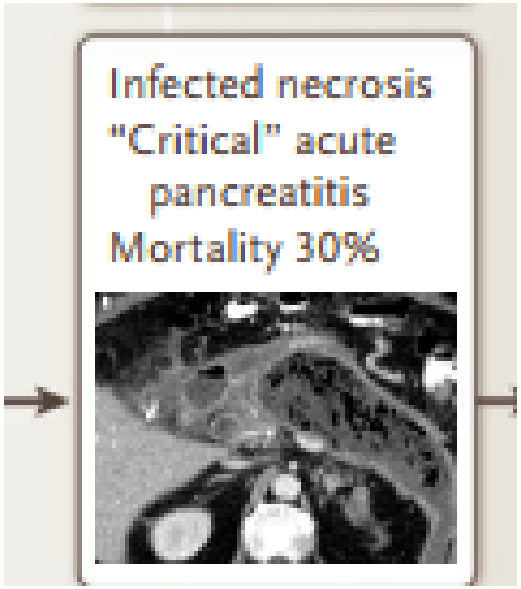
  local : -pseudocysts

  -pancreatic or peripancreatic necrosis
  - acute peripancreatic fluid

- Mild acute pancreatitis
- Moderately severe acute pancreatitis
- Severe pancreatitis

Diagnosis and classification

- Critical pancreatitis: persistent organ failure + infected pancreatic necrosis



Prediction of Severity

- Age ≥60 years
- Severe coexisting conditions: score of ≥2 on Charlson comorbidity index, obesity, long-term, heavy alcohol use
- Lab data : Hemoconcentration, Azotemia, CRP
- Imaging: do not count on it!
- Persistent SIRS

Charlson comorbidity index

Comorbidity	Relative Weight Assignment
metastatic solid tumor	6
AIDS	6
moderate-to-severe liver disease	3
hemiplegia	2
moderate-to-severe renal failure	2
diabetes w/ end organ damage	2
neoplasia	2
leukemia/lymphoma	2
myocardial infarct	1
congestive heart failure	1
peripheral vascular disease	1
cerebrovascular disease	1
dementia	1
chronic pulmonary disease	1
connective tissue disease	1
ulcer disease	1
mild liver disease	1
Diabetes	1

Management

- Fluid resuscitation

  -Balanced crystalloid solution (Ringer's lactate)
  200 to 500 ml per hour, 5-10 ml / kg /hour
  - Cardiopulmonary, urine output, BUN, Hct monitoring

- Feeding
  -Oral feeding
  -Artificial enteral feeding
  -Total parenteral nutrition

Management

- Antibiotic therapy: no benefit of prophylactic antibiotics
- Endoscopic therapy
  ERCP
  EUS

Management

- Treatment of Fluid Collections and Necrosis

  -Acute peripancreatic fluid collections

  -Symptomatic pseudocysts

  - Necrotizing pancreatitis:

  -Sterile

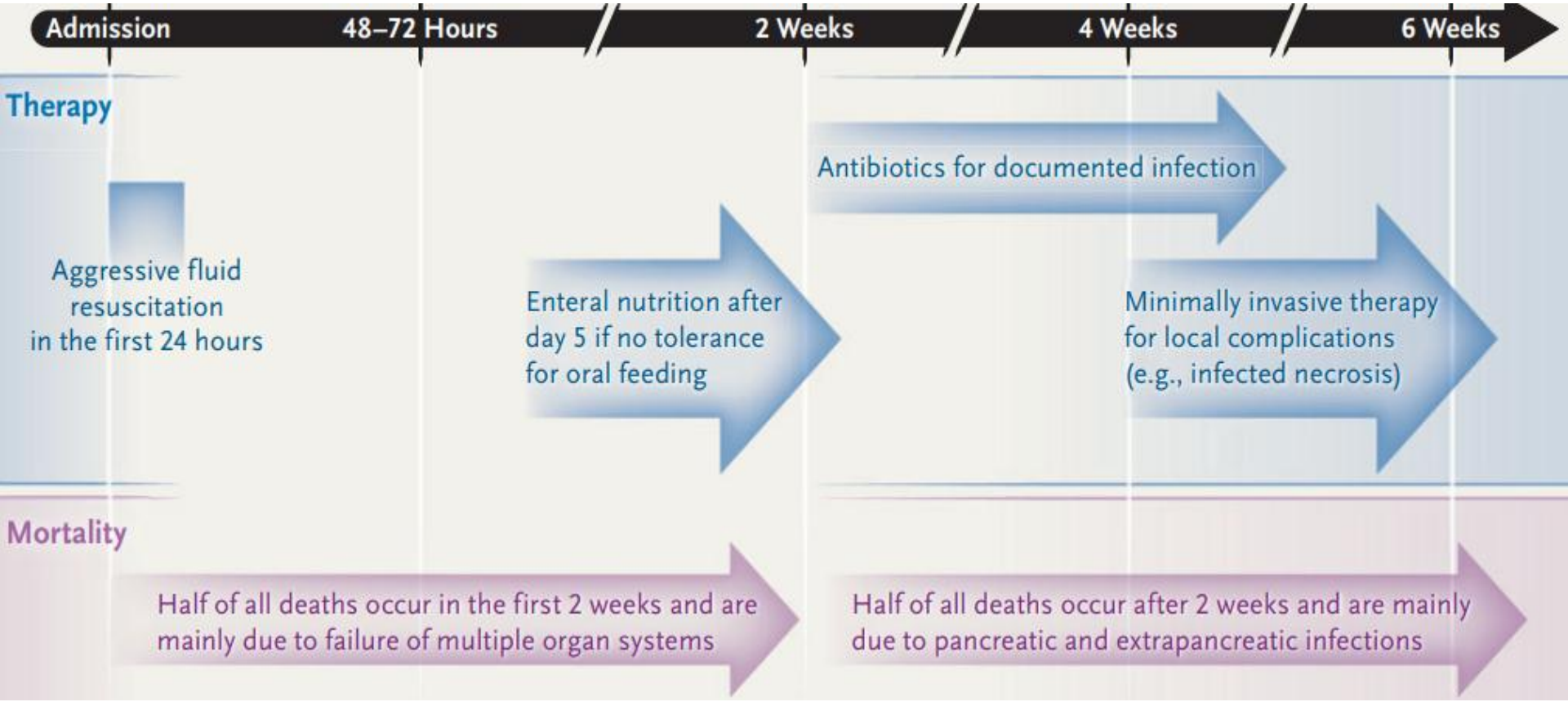
  - Infected : The step-up approach: antibiotic administration, percutaneous drainage as needed, and after a delay of several weeks, minimally invasive débridement, if required

Long -Term Consequences of Acute Pancreatitis

- Recurrent attacks and chronic pancreatitis
  -severity of the initial attack
  -the degree of pancreatic necrosis
  -The cause: long-term, heavy alcohol use, smoking

Prevention of Relapse

- Cholecystectomy
- Endoscopic biliary sphincterotomy
- Alcohol abstinent, smoking cessation
- Primary prevention: pancreatitis caused by ERCP
  -NSAID
  -Pancreatic duct stents


Admission
48–72 Hours
2 Weeks
4 Weeks
6 Weeks
Therapy
Aggressive fluid resuscitation in the first 24 hours
Enteral nutrition after day 5 if no tolerance for oral feeding
Antibiotics for documented infection
Minimally invasive therapy for local complications (e.g., infected necrosis)
Mortality
Half of all deaths occur in the first 2 weeks and are mainly due to failure of multiple organ systems
Half of all deaths occur after 2 weeks and are mainly due to pancreatic and extrapancreatic infections

Conclusion

- An increasingly common clinical problem.
- New approaches to fluid resuscitation, antibiotic use, nutritional support, and treatment
- More effective prevention of post-ERCP pancreatitis is possible, and gallstone

Thank you all for listening