HOSPITAL PHYSICIAN®

CRITICAL CARE MEDICINE BOARD REVIEW MANUAL

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Gastrointestinal Diseases in the Intensive Care Unit

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Table of Contents

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next page

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Gastrointestinal Diseases in the Intensive Care Unit

I. INTRODUCTION

Patients with gastrointestinal diseases represent one of the largest groups of patients admitted to intensive care units (ICUs). The pathologic manifestations with which these diseases present are diverse and dynamic. Rapid changes in clinical status require in-depth clinical evaluation, attention to detail, and close monitoring. Included in this manual are 3 of the more common gastrointestinal diseases encountered in the ICU: pancreatitis, fulminant hepatic failure, and gastrointestinal bleeding. Early recognition and appropriate therapy can significantly improve the prognosis of patients with these conditions.

II. PANCREATITIS

CASE 1 PRESENTATION

Patient 1 is a 52-year-old woman who presents to the emergency department with severe, diffuse pain across the middle aspect of her upper abdomen and radiating through to her back. She reports some nausea and a single episode of vomiting.

Approximately 4 weeks ago, she presented to her primary care physician with intermittent sharp pains in the right upper quadrant of her abdomen. Her physical examination at that time was entirely normal. Laboratory data did not demonstrate hepatic dysfunction or elevation of her leukocyte count or amylase level. The patient was sent home and told to restrict her fat intake. Over the next 3 weeks she had intermittent pain. At times the pain lasted for several hours, but it always remitted on its own. On the night of admission the pain changed in character, becoming fairly diffuse and radiating.

Physical examination of patient 1 in the emergency department reveals a temperature of 101°F and a heart rate of 130 bpm. Examination of her chest shows mildly decreased breath sounds in the left lower lung zone. Her abdomen is diffusely tender with significant rigidity but no rebound.

- **What laboratory tests should now be obtained in the evaluation of patient 1?**
- **What radiographs and/or other noninvasive diagnostic studies would be helpful in determining the etiology of patient 1's abdominal pain?**

INTRODUCTION

Pancreatitis is a relatively common disease, with an annual incidence of 10 to 50 cases per 100,000 persons. The most common causes of acute, primary pancreatitis in the United States are gallstones and alcohol abuse (**Table 1**). Pancreatitis is usually a mild to moderately severe self-limiting disease requiring analgesia, fluid resuscitation, and amelioration of the precipitating cause. In the vast majority of patients, the prognosis is good. Morbidity and mortality are dramatically higher in patients with severe pancreatitis.

ETIOLOGY AND PATHOPHYSIOLOGY

Patients with pancreatitis who are admitted to the ICU either have severe pancreatitis or have developed pancreatitis secondary to a preexisting severe illness or major surgery. Several conditions predispose patients to pancreatitis, including coronary artery bypass grafting, abdominal aortic aneurysm repair, transplant surgery (cardiac, renal, or hepatic), and shock. Common elements of presentation include hypoperfusion, external activation of inflammatory cytokines, immunosuppressive drugs, or some combination of these 3 factors. The final pathway leading to pancreatitis regardless of etiology is an intense inflammatory response caused by the

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