Pancreas
Vol. 12, No. 2, pp. 126–130

Intraabdominal Hemorrhage Complicating Surgical Management of Necrotizing Pancreatitis

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Summary: Surgical management of necrotizing pancreatitis (NP) may result in significant intraabdominal hemorrhage requiring intervention. To determine the incidence and management of hemorrhage complicating operative management of NP, we analyzed retrospectively all patients undergoing operative treatment of NP between 1985 and 1994. Thirteen of 61 patients (21%) developed intraabdominal hemorrhage requiring intervention. The five patients (38%) who experienced more than one bleeding episode had undergone more prior operative debridements (mean of 5.6 vs. 3.8), had had higher transfusion requirements during the first bleeding episode (mean of 27.4 vs. 11.3 U of packed red blood cells), and had a higher hospital mortality (60 vs. 38%) compared to patients with only one bleeding episode. Coexistence of pancreatic and/or gastrointestinal fistula was more common in patients who developed bleeding (36 vs. 11%). Seventeen bleeding sites (eight venous, seven arterial, two generalized oozing) were identified. Angiography was successful in one of two patients in whom it was employed. Surgical control was effective in the other 12 patients. There was no acute mortality related to hemorrhage, but the hospital mortality was greater than in those without hemorrhage (46 vs. 21%). We conclude that significant hemorrhage complicates the surgical management of NP in ~20% of patients; while it can be effectively controlled surgically and does not lead to immediate mortality, it may predict worse prognosis. **Key Words:** Necrotizing pancreatitis—Hemorrhagic pancreatitis—Pseudoaneurysm—Angiographic embolization.

Recent improvements in the recognition and understanding of necrotizing pancreatitis and recent changes in its management strategy have markedly decreased mortality rates of this serious disease (1–4). Although the overall mortality has decreased, the related morbidity of the necrotizing process remains high. Significant intraabdominal hemorrhage, often requiring active intervention, remains as a frequent complication. This retrospective review details our experience (1985–1994) with the incidence and management of hemorrhage developing in 61 patients who required operative intervention for severe necrotizing pancreatitis.

Manuscript received November 14, 1994; revised manuscript accepted March 31, 1995.

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PATIENTS AND METHODS

The records of all consecutive patients who underwent surgical treatment of necrotizing pancreatitis from 1985 to 1994 were reviewed. Only the patients with pancreatic parenchymal and/or peripancreatic tissue necrosis proven intraoperatively were included in this study. Patients were classified according to the recent classification of necrotizing pancreatitis, as suggested by the Atlanta Conference (5). Those patients with infected pseudocysts complicating acute pancreatitis were specifically excluded. The first seven patients with necrotizing pancreatitis were treated with open marsupialization as described previously (6). Thereafter, most all patients were managed by initial necrosectomy, followed by every other day reexploration and debridement until all the nonviable and potentially infected tissue had been removed and the necrotizing process had ceased, at which time attempts were made to close the wound primarily over closed suc-