

Post-Pancreatectomy Hemorrhage: Management, Outcome and Predicting Factors of a Life-Threatening Complication

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Context Hemorrhagic complications are life-threatening complications occurring after pancreatectomy. **Objectives** 1. To analyze incidence, management, and clinical outcome of post-pancreatectomy hemorrhage (PPH). 2. To identify factors associated with its occurrence. **Methods** Retrospective study on prospectively collected data about 981 consecutive patients undergoing a standard pancreatic resection (pancreaticoduodenectomy or left pancreatectomy) between 2004 and 2011. PPH was defined as postoperative clinical or radiological evidence of bleeding, requiring transfusion of packed red blood cells. PPH was stratified based on: time of onset (early: within 24 hr after surgery; late >24 hr); site (intraluminal: in the GI tract; or extraluminal); severity (mild: self-limiting with no need for radiologic or surgical intervention; severe: requiring intervention). **Results** A total of 65 patients (6.6%) experienced PPH.

It was early in 17 (26%) and late in 48 (74%) patients. In 9 cases (14%) PPH was intraluminal, in 56 (86%) extraluminal. In 14 patients (21%) PPH was mild; angiography (with embolization or stenting) was used in 9 patients (14%), and it was successful in 5 patients; the remaining 4 patients needed further radiological or surgical treatment. Relaparotomy for PPH was necessary in overall 49 patients (75%). Mean volume of postoperative transfusion was $1,847 \pm 1,997$ mL. Re-bleeding after radiological or surgical intervention occurred in 10 patients (15%). Overall mortality in patients with PPH was 45%. Factors predicting PPH were type of surgery (pancreaticoduodenectomy), soft pancreatic stump, and postoperative pancreatic fistula. **Conclusion** PPH can be a dramatic complication, frequently leading to relaparotomy, and carries a high risk of mortality.