

Abdominal Complications after Cardiac Surgery

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Abstract

Objective: Abdominal complications after cardiac surgery are associated with a high mortality rate. Due to the absence of early specific clinical signs, diagnosis is often delayed. The present study seeks to determine predictive risk factors for subsequent gastrointestinal complications after cardiosurgical procedures. **Methods:** Within 12 months, all patients (n = 1,116) who had undergone open heart surgery with cardiopulmonary bypass at our institution were studied for abdominal complications. To determine predictive factors, all case histories of the patients were analysed. **Results:** Abdominal complications occurred in 23 (2.1%) patients during the postoperative intensive care unit (ICU) stay, ten of whom had to undergo subsequent abdominal surgery. Of these 23 patients, 20 died. Early complications occurred most likely on postoperative days 6 and 7, consisting of bowel ischaemia or hepatic failure. Late complications consisted of gastrointestinal bleeding, pseudomembranous colitis, cholecystitis and septic rupture of a spleen. The relative risk for abdominal complications after cardiopulmonary bypass was highly increased in association with a cardiac index less than 2.0 l/min⁻¹/(m²)⁻¹ (22.1-fold), postoperative onset of atrial fibrillation (16.6-fold), emergency surgery (10.7-fold), need for vasopressors (10.1-fold), need for intra-aortic balloon counterpulsation (8.6-fold), and the need for re-exploration within the first 24 hours (8.4-fold). All patients with necrotic bowel disease had elevated serum lactate levels. Furthermore, both cardiopulmonary bypass and aortic clamping times were significantly prolonged in patients who developed gastrointestinal complications. **Conclusions:** A number of predictive factors has been described to contribute to the development of abdominal complications subsequently after cardiac surgery on cardiopulmonary bypass. Knowledge of these factors may lead to earlier identification of patients at increased risk and may allow for more efficient and earlier interventions.

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