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Indication for Surgery Predicts Long-Term But Not In-Hospital Mortality in Patients Undergoing Lower Extremity Bypass Vascular Surgery

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Introduction: Vascular surgery patients are at risk for perioperative cardiovascular morbidity and mortality. We wanted to consider whether the indication for surgery provided independent information for long-term mortality in contrast to in-hospital mortality. Indications for this surgery include chronic limb ischemia (claudication, ischemic rest pain, and tissue loss) and acute indications such as aneurysm repair and graft thrombosis.

Methods: The Mount Sinai Hospital institutional review board approved the study and a waiver of informed consent was obtained. A retrospective review was performed of all patients who underwent femoral-distal lower extremity arterial bypass procedures between January 2002 and January 2008. 603 patients were studied. The Rutherford grade classification was used to categorize symptoms of chronic limb ischemia. Patients who presented with acute limb ischemia were categorized as acute. Multiple logistic regression analysis was performed to determine independent risk factors for in-hospital and 1-year mortality.

Results: Overall in-hospital and 1-year mortality were 4.64% and 18.9%, respectively. In multivariate analysis, independent risk factors for in-hospital mortality were ASA physical status (PS) classification, Revised Cardiac Risk Index (RCRI) score, age, and emergency surgery. Independent risk factors for 1-year mortality included ASA PS classification, RCRI score, age, emergency surgery, gender, and indication for surgery. The 1-year mortality rate was 2.9% for patients who presented with claudication, 7% for patients who presented with rest pain, 22% for patients who presented with tissue loss, and 20% for patients who presented with acute indications such as aneurysm repair.

Discussion: Guidelines from the American College of Cardiology/American Heart Association suggest that clinicians should focus on the long-term management of patients undergoing vascular surgery.¹ Consideration of the indication for surgery may prompt the clinician to identify high-risk vascular surgery patients and ensure adequate medical follow-up outside of the immediate perioperative period.² While these guidelines discuss magnitude of surgery and surgery type as important variables for immediate perioperative outcomes, perhaps indication for surgery should be considered in the analysis of long-term outcomes.

1. Fleisher LA, Beckman JA, Brown KA, et al. ACC/AHA 2007 guidelines on perioperative cardiovascular evaluation and care for noncardiac surgery: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation* 2007; 116:e418–e499.

2. Fleisher LA, Eagle KA, Shaffer T, Anderson GF. Perioperative and long-term mortality rates after major vascular surgery: the relationship to preoperative testing in the Medicare population. *Anesth Analg* 1999; 89:849–855.