Myocardial injury after non-cardiac surgery: a new clinical entity

Abstract

Objectives: The objective was to determine the diagnostic criteria of a prognostically important troponin elevation following non-cardiac surgery.

Background: A postoperative troponin leak following non-cardiac surgery is independently associated with 30-day mortality. Importantly, even what was previously considered to be an insignificant troponin leak has been independently associated with 30-day mortality in unselected surgical patients ≥ 45 years of age.

Method: This study forms part of the prospective observational study known as the VISION (Vascular Events In Noncardiac Surgery Patients Cohort Evaluation) study. Diagnostic criteria were established for prognostically important myocardial injury following non-cardiac surgery from 15,000+ patients. A Cox regression analysis was undertaken to determine the independent predictors of 30-day mortality following non-cardiac surgery. The potential independent variables entered into the regression included preoperative variables, perioperative complications, and possible diagnostic criteria for myocardial injury after non-cardiac surgery.

Results: Elevated troponin after non-cardiac surgery (without any evidence of a non-ischaemic cause like sepsis), independently predicted 30-day mortality. The presence of an ischaemic feature, as required for the Universal definition of myocardial infarction, did not change the diagnostic performance of the elevated troponin alone.

Conclusion: Myocardial injury after non-cardiac surgery should be considered a new clinical entity. A troponin leak alone is considered to be prognostically important. The presence of ischaemic features should not be considered as a criterion for intervention in troponin-positive patients following non-cardiac surgery.

References