

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

Biccard BM, on behalf of the VISION (Vascular Events In Noncardiac Surgery Patients Cohort Evaluation) Investigators  
Perioperative Research Group, Department of Anaesthetics, University of KwaZulu-Natal

Correspondence to: Bruce Biccard, e-mail: biccardb@ukzn.ac.za

Keywords: myocardial injury, non-cardiac surgery, 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  $\geq 45$  years of age.<sup>1</sup>

**Method:** This study forms part of the prospective observational study known as the VISION (Vascular Events In Noncardiac Surgery Patients Cohort Evaluation) study.<sup>1</sup> 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.

© SASA

South Afr J Anaesth Analg 2014;20(1):24

### References

1. Devereaux PJ, Chan MT, Alonso-Coello P, et al. Association between postoperative troponin levels and 30-day mortality among patients undergoing noncardiac surgery. *JAMA*. 2012;307(21):2295-304.