

Copeptin is an early marker of cardiac complications in patients undergoing major abdominal surgery.

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Abstract

Background: Perioperative myocardial injury affects up to 18% of patients undergoing major non-cardiac surgery¹. To minimize cardiac complications it is important to identify patients at risk at an early stage. Traditional methods such as clinical examination, ECGs and preoperative risk scores are neither specific nor sensitive. Copeptin, a molecule cleaved from AVP at the time of release, is a relatively new biomarker that is used to identify patients with acute coronary events at an early stage. However, its value within the context of perioperative care is not well investigated.

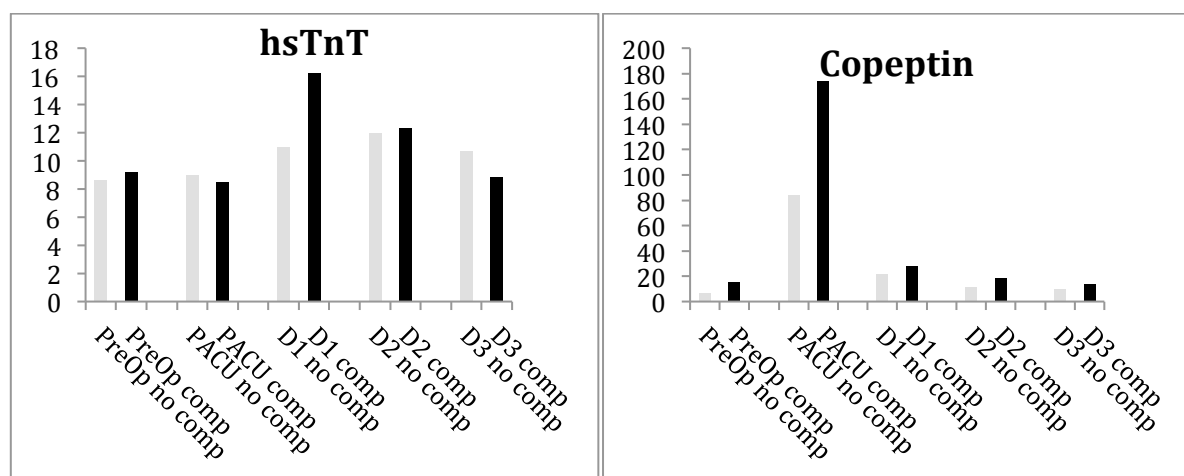
Objective: To investigate the relationship between pre- and postoperative plasma levels of copeptin and the incidence of cardiac complications.

Methods: A multicentre, prospective cohort-study. 250 patients ≥ 50 years old, undergoing major abdominal surgery were included. Trained staff collected blood samples preoperatively, immediately after the surgery and on days 1, 2 and 3 postoperatively. Copeptin and TnT were analysed.

Results: Median Copeptin concentrations were higher in patients with cardiac complications compared to those without complications at all time points; with greatest differences immediately postoperatively. The increase in Copeptin occurred earlier than TnT (Figure 1). 100 patients have been analysed, and we will supplement our results with analysis of 250 patients due on 20May2018.

Conclusions: Copeptin is significantly increased in patients with postoperative cardiac complications. Compared to cardiac troponins, it increases at an earlier stage covering the 'troponin free' period. Therefore, it may be a promising early marker for cardiac complications after surgery.

Figure 1. Median perioperative hsTnT and Copeptin levels in patients undergoing major abdominal surgery.



¹Devereaux PJ et al. Association of postoperative high-sensitivity troponin levels in myocardial injury and 30-day mortality among patients undergoing noncardiac surgery. JAMA 2017; 317:1642-51