

RC814-11 Presepsin and Inflammatory Markers Correlate with Non-occlusive Mesenteric Ischemia after Cardiovascular Surgery

Participants

Jonas Stroeder, MD, Homburg, Germany (*Presenter*) Nothing to Disclose
Heinrich Groesdonk, Homburg, Germany (*Abstract Co-Author*) Nothing to Disclose
Hans-Joachim Schaefers, MD, Homburg, Germany (*Abstract Co-Author*) Nothing to Disclose
Matthias Klingele, Homburg, Germany (*Abstract Co-Author*) Nothing to Disclose
Stefan Wagenpfeil, Homburg, Germany (*Abstract Co-Author*) Nothing to Disclose
Marcus Katoh, MD, Krefeld, Germany (*Abstract Co-Author*) Consultant, Straub Medical AG Consultant, Medtronic, Inc
Hagen Bomberg, Homburg, Germany (*Abstract Co-Author*) Nothing to Disclose
Arno Buecker, MD, Homburg, Germany (*Abstract Co-Author*) Research Grant, Siemens AG; Consultant, Bracco Group; Speaker,
Peter Minko, MD, Homburg, Germany (*Abstract Co-Author*) Speaker, Straub Medical AG Consultant, Straub Medical AG

PURPOSE

The aim of our study was to prospectively evaluate the inflammatory response to the occurrence and severity of non-occlusive mesenteric ischemia (NOMI) using a standardized scoring system.

METHOD AND MATERIALS

Between 2/2011 and 3/2012 a total of 865 patients (median age: 67 years) underwent cardiovascular surgery during this ethics committee approved, prospective study. Patients with clinical suspicion of NOMI underwent catheter angiography of the superior mesenteric artery. Images were assessed by two experienced radiologists on consensus basis using a previously published standardized reporting system (Homburg-NOMI score: consisting of three categories namely vessel morphology, reflux of contrast medium into the aorta and time to portal vein filling). These data were correlated to inflammatory blood markers assessed pre- and postoperatively: C-reactive protein (CRP), leucocytes, procalcitonin (PCT) as well as presepsin and outcome data (death, acute renal failure) using linear and logistic regressions, as well as nonparametric tests and ROC-analysis.

RESULTS

Significant correlations were found between pre- and postoperative presepsin ($p < 0.001$ / $p < 0.001$) and the NOMI-Score as well as for pre- and postoperative CRP ($p < 0.001$ / $p = 0.001$) and the NOMI-Score. No significant correlation was found for preoperative leucocytes ($p = 0.147$) and preoperative PCT ($p = 0.599$), but the postoperative values significantly correlated with the score ($p = 0.002$ and $p < 0.001$).

ROC-Analysis yielded an AUC of 0.837 for postoperative presepsin with a sensitivity and specificity of 74.6% and 83%, respectively.

CONCLUSION Presepsin shows good sensitivity and specificity regarding the occurrence and severity of NOMI and could find use in postoperative lab workup. The

established inflammatory blood markers significantly correlate with the development and severity of NOMI.

CLINICAL RELEVANCE/APPLICATION

Patients with elevated inflammatory blood markers (especially presepsin) before or after undergoing cardiovascular surgery should receive an early diagnostic angiogram if non-occlusive mesenteric ischemia is clinically suspected as the disease presents with more severity. An inflammatory genesis of NOMI should be always kept in mind and further research should be conducted to find the pathophysiological connection

<http://archive.rsna.org/2016/Friday.pdf>