

Assessing the significance of some biomarkers in perioperative period after thoracic aortic reconstruction

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Objective. This study aims to assess the association between levels of biomarkers and postoperative complications in patients after thoracic and thoracoabdominal aortic reconstruction.

Design. Single group assessment observational open label study.

Methods. The study protocol approved by the Ethics Committee. Patients included: ascending aortic and aortic arch reconstruction.

Eligibility. Age 18-75 years. Inclusion Criteria: Elective thoracic and thoracoabdominal surgery. Exclusion Criteria: Hemolysis in blood sample.

The concentrations of proadrenomedullin, procalcitonin, presepsin, procalcitonin, troponin I and N-terminal brain natriuretic peptide measurement before induction anesthesia, at the end of the surgical operation and in 6 hours after surgery.

Turnaround time test no more than 40 minutes. The concentrations of procalcitonin and proadrenomedullin determined on a Kryptor Compact Plus analyzer (Thermo Fisher Scientific), troponin I, NT-proBNP and presepsin on a PATHFAST analyzer (LSI Medience Corporation).

Statistical analysis. The normality of the distribution estimated by chi square. The data analyzed with a non-parametric test (Mann–Whitney U-test) and Student t-test according to normality tests. A P value ≤ 0.05 considered to be statistically significant. ROC-analysis to identify the predictors of postoperative complications and regression coefficients for odds ratio calculation for each dependent variable. Regression analysis to assess the influence on quantitative variables of biomarkers.