

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  $\leq 0.05$  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.