

MARKERS OF SIRS SEVERITY IN PATIENTS WITH INFECTIVE ENDOCARDITIS AFTER HEART VALVE REPLACEMENT

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Introduction: The predictive markers of postoperative systemic inflammatory response syndrome (SIRS) in noninfectious states occurring in patients undergoing replacement a heart valve surgery during cardiopulmonary bypass currently poorly understood. It looks like the serum levels of proinflammatory cytokines to become a predictive biomarker in order to monitor the systemic inflammatory response.

Methods: This study was prospective. Serum cytokine (TNF α , IL1 β , and IL6) concentrations and procalcitonin (PCT) levels were measured in patients with and without postoperative SIRS (altogether 110 patients). Severity of illness at the baseline was assessed based on the acute physiology and chronic health evaluation II (APACHE II) score. Also all patients were assessed using the sequential organ failure assessment score (SOFA). Complications before replacement a heart valve, on the first and seventh day after it. The serum levels of cytokines and procalcitonin were determined using ELISA commercial kits (BMS, Austria).

Statistical analysis was performed using software package (Statistica, version 6,0 software package) and data presented as median Me [25Q-75Q]. Wilcoxon signed-rank test for paired difference test and Kruskal-Wallis and Mann-Whitney *U* tests was used. *P* values less than 0,01 were as mentioned statistically significant.

Results: Changes in serum concentration of PCT, IL1 β and IL6 in the postoperative period significantly increased in patients without severe SIRS ($p < 0,001$). The results showed an increase serum TNF- α in all patients at first day after surgery ($p < 0,001$). The serum IL1 β in patients with postoperative severe SIRS staed in the preoperatively level at all time-points (5,8 [5,2-9,1] pg/ml vs 5,8 [5,2-7,9] pg/ml $p = 0,78$ on the first day after surgery, 8,0 [4,9-16,0] pg/ml vs 5,8 [5,2-7,9] pg/ml, $p = 0,0054$ on the seventh day after surgery). Postoperative concentration of IL6 were lower in the patients with postoperative severe SIRS than those in the other group (10,6 [4,8- 16,6] pg/ml vs 44,2 [30,6-73,8] pg/ml, $p < 0,001$).

Conclusion: The results showed low postoperative levels of IL1 β and IL6 expected to be the predictive markers in order to monitor the systemic inflammatory response occurring after heart valve replacement in patients with infective endocarditis.