

CHANGES IN THE SYSTEMIC INFLAMMATORY RESPONSE AND RENAL FILTRATION FUNCTIONS USING A CLOSED CIRCUIT OF THE ARTIFICIAL CIRCULATION WITH CORONARY ARTERY BYPASS GRAFTING

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The objective of this report was to study the direct results of cardiopulmonary bypass surgery in conditions of cardiopulmonary bypass in closed and open circuits.

Methods: 2 cohorts of patients underwent coronary artery bypass grafting using open and closed CPB contours. Patients in group 1 (n = 50; mean age 65 ±4,2 years) underwent coronary artery bypass grafting in the closed CPB contour. Patients in group 2 (n = 50; mean age 64 ±5,3years) underwent coronary artery bypass grafting in the open CPB contour. Clinical characteristics of both cohorts were comparable. The total time of cardiopulmonary bypass was lower in the 1-st group than in the 2-nd group (58min±12,7 and 64min ±16,9, respectively; p = 0,04). The average number of grafts was 3 ±0,67 in the control group, 3 ±0,53 in the comparative group. Postoperative analysis of laboratory indicators has been divided into 2 stages at the time of six hours and sixteen hours.

Results: When comparing two groups on the expiration of 6 hours after operation level of leucocytes, platelets, C-reactive protein, urea and creatinine has not undergone a significant difference. After 16 hours of operation, the level of leucocytes was 10x10⁹ ±13,2 and 11,3x10⁹ ±2,4 (p= 0,02) respectively; the level of C-reactive protein was 4mg/dl ±2,8 and 5,6 mg/dl ±2,2 (p=0,01) respectively. There were no statistically significant changes in urea and creatinine levels in both groups.

Conclusion: The closed contour of cardiopulmonary bypass can be used effectively and safe for coronary artery bypass grafting surgery.

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