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Abstracttitel: INFUSION DURATION EFFECTS OF INTERMITTENT COLD BLOOD
RETROGRADE CARDIOPLEGIA ON MYOCARDIAL PROTECTION AND
INFLAMMATORY RESPONSE DURING ON-PUMP CORONARY SURGERY

Cold blood cardioplegic solutions seem to be superior for myocardial protection during aortic cross-clamping and have decreased morbidity and mortality of cardiac procedures.

The aim of this prospective study was to assess whether increasing infusion duration of intermittent cold blood retrograde cardioplegia improves protection against myocardial injury and inflammatory response during on-pump coronary surgery.

Twenty-four patients undergoing coronary revascularization with hypothermic cardiopulmonary bypass (CPB) were randomly allocated in 2 groups. Group 1 received intermittent cold blood retrograde cardioplegia during 2 minutes, group 2 during 4 minutes. Cardiac troponin I, myocardial fraction of MB-creatin kinase, C-reactive protein (CRP), fibrinogen, white blood cell counts were obtained from arterial blood samples before induction of anesthesia, before and after CPB, and during the postoperative period. Hemodynamic parameters were obtained before and after bypass. Ventricular fibrillation (VF) after aortic declamping and postoperative atrial fibrillation (AF) were recorded. Results expressed as mean \pm SEM were analyzed using unpaired student *t*-test and Fisher's exact test ($p < 0,05$, significant).

Myocardial injury markers, hemodynamic parameters, VF, ICU and hospitalization duration did not differ between groups ($p > 0,05$). CRP was significantly lower in group 2 at 24 hours ($p < 0,0001$), and fibrinogen lower in group 2 at 24 ($p < 0,0001$) and 48 hours ($p < 0,0135$). Despite implication of CRP in genesis of AF, we did not observe enhanced incidence of AF in group 1 (2/12 vs 5/12, $p=1$).

Our results suggest that four minutes intermittent cold blood retrograde cardioplegia reduces inflammatory response at 24 hours postoperatively after CPB while providing similar myocardial protection.