

MIX BLOOD CARDIOPLEGIA (MBC) IN REDO PATIENTS UNDERGOING MITRAL VALVE REPLACEMENT SURGERY

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Abstract

Aim of Study: Redo patient undergoing valvular surgery are always a challenge for both cardiac surgeon and anaesthesiologists. Mix blood cardioplegia has had a profound impact on cardiac surgery, but there have been few studies on its use in mitral valve replacement, especially in redo patient. The purpose of this study was to determine whether mix blood cardioplegia offers any advantages in redo patient undergoing mitral valve replacement.

Patients and Methods: 20 patients, who have had a previous mitral valve surgery and were scheduled for mitral valve replacement with or without tricuspid repair, were randomized retrospectively to one of two groups of 10 with different technique of myocardial protection: group A (10 patients) had cold cristaloid cardioplegia, and group B (10 patients) had mix blood cardioplegia, a technique modified on our clinic condition (made by mixing 400-500ml oxygenated blood from oxygenator and 10ml KCL 7.5%). Systemic hypothermia was 28°C in Group A and between 32°C and 33°C in Group B. The results were primarily assessed on the basis of clinical outcome, such as hematocrit level intra and post CPB, maximum dose of inotropic support, spontaneous rhythm recovery after aortic crossclamping, length of intensive care unit stay and secondly on

postoperative blood loss and blood requirements.

Results: There were no preoperative or operative differences between the groups with regard to age, sex, diagnosis, rhythm, New York Heart Association functional class, left ventricular ejection fraction, estimated pulmonary artery systolic pressure, operation, or duration of the operation, CPB, or aortic crossclamping and the time when the patients underwent the first operation. There was one death in group A (10% mortality). The changes in hematocrit level differs significantly between the two groups on the post CPB period ($p=0.02$). There appeared to be a trend towards better spontaneous recovery of sinus rhythm after removal of the aortic crossclamp in group B compared with group A, the difference did reach statistical significance ($p=0.002$). Patients on group A required more inotropic support than Group B ($p=0.005$). There were differences even on blood requirements postoperatively, more dominant these requirement were in group A ($p=0.02$).

Discussion: Mix Blood cardioplegia had beneficial effects in clinical outcome in redo patients undergoing mitral valve replacement surgery. This may be due to its better preservation of high-energy phosphates and endogenous amino acids, less anerobic metabolic activity on reperfusion, reduced