



Custodial-HTK Solution for Myocardial Protection in CABG Patients

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Background and Objective: Many steps of myocardial preservation during open heart surgery are practical after the development of the heart-lung machine. Cardioplegia solution infused after aortic cross clamp is an important aspect. Two thirds of cardioplegia solution are intracellular solution (such as HTK or *Bretschneider* solution) and extracellular solution (such as blood cardioplegia). Intracellular cardioplegia solution can protect for 3-4 hours after one time infusion which differs from extracellular cardioplegia solution requiring intermittent use every 20-30 minutes.

Material and Method: Retrospective case-control study in CABG patients were reviewed in Cardiovascular and Thoracic Unit, Department of Surgery, Khon Kaen University during April 2011-September 2012. The study group was divided into groups A and B, for myocardial protection by blood cardioplegia and Custodiol-HTK (Histidine-Tryptophan-Ketoglutarate) solution. Base line data such as age, sex, NYHA, risk factors, associated

disease, operation, CPB time, aortic cross clamp time, complication, defibrillation after surgery, ICU stay, length of stay and mortality rate were analyzed.

Result: The study patients in group A and B were 60 and 65 cases. Defibrillation after finish CABG in group A and B were 8.3% and 33.8%. Mortality rate in group A, B were 1.7% and 4.6%, respectively. Other post operative complications were similar in both groups.

Conclusion: There was significant more spontaneous ventricular fibrillation after release of cross clamping in HTK group. Clinical outcome of single dose of antegrade cold Custodiol-HTK cardioplegia solution in CABG surgery protected the myocardium equally well as repetitive antegrade cold blood cardioplegia.

Keyword: Myocardial protection in coronary artery bypass grafting (HTK versus cold blood cardioplegia)

