

MEETING ABSTRACT

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The efficacy of custodiol as blood cardioplegia for myocardial protection in adult cardiac surgery

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Background/Introduction

Custodiol cardioplegia is attractive method of myocardial protection, as a single dose provides a long period of preservation. Despite widespread use in Europe, the available data confirming its efficacy is little compared with conventional methods of cardioplegia. Custodiol solution is administered in a single-dose, allowing the operation to be done continuously. This is an advantage over other cardioplegic solutions that may have to be re administered every 20-30 minutes.

Aims/Objectives

Is to compare the efficacy of Custodiol to standard Plegisol blood cardioplegia in adult cardiac surgical cases.

Method

This study was a single-center retrospective review of prospectively collected data. Adult cardiac surgery cases performed between January 2011 and August 2013 using Custodiol[®] were compared to cases using standard Plegisol blood cardioplegia. The endpoints of intra-operative and post-operative were compared including 30-day mortality, hospital readmission, prolonged mechanical ventilation time, and renal failure.

Results

Of the 100 cases identified, 40 cases used Custodiol and 60 used blood Cardioplegia. Demographics data were similar in both groups with a mean patient age of 60 ± 14.1 years for Custodiol and 66 ± 10 years for blood cardioplegia. The average cardiopulmonary bypass time for Custodiol and blood cardioplegia was 122 ± 60 and 135 ± 54 minutes respectively. The Custodiol group had a greater incidence of prolonged ventilation (>24 hours),

20% versus 15 % respectively, and this approached statistical significance with a p value of (0.05). Intra-operative blood usage was significantly higher in the Custodiol group compared to the blood cardioplegia group, with 44% of patients receiving fresh frozen plasma during the operation compared to only 25% in the blood cardioplegia group (p = 0.005). There is no statistically significant difference in 30-day mortality, hospital readmission, and renal failure.

Discussion/Conclusion

Custodiol is effective for myocardial protection with distinct advantage of long-term ischemic tolerance although the use of custodiol increase the need of fresh frozen plasma during the perioperative period when compared to blood cardioplegia.

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