Telaah Sistematik Penggunaan Kardioplegia Darah Dan Kristaloid Pada Bedah Jantung Terbuka Dewasa terhadap Luaran Pascabedah = The Use of Blood vs Crystalloid Cardioplegia in Adult Open-Heart Surgery on Postsurgical Outcomes: A systematic review of cardiac enzyme, atrial fibrillation incidence, myocardial infarction, inotropic use, length of stay in ICU, and postoperative mortal

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Abstrak

Latar belakang. Iskemia miokard sering terjadi karena efek klem silang aorta selama bedah jantung terbuka dengan pemakaian mesin pintas jantung paru. Kardioplegia sebagai metode kardioproteksi, dapat berupa kardioplegia darah maupun kristaloid. Telaah sistematik ini bertujuan mengidentifikasi semua uji acak yang membandingkan tingkat cedera miokard, kejadian fibrilasi atrial, infark miokard, penggunaan inotropik, lama perawatan intensif dan mortalitas pascabedah.
Metodologi. Telaah sistematik dilakukan dengan melakukan pencarian literatur melalui database pada COCHRANE, PubMed, PMC, dan Google Scholar untuk mengidentifikasi semua uji acak yang membandingkan tingkat cedera miokard, kejadian fibrilasi atrial, infark miokard, penggunaan inotropik, lama perawatan intensif dan mortalitas pascabedah antara kardioplegia darah dan kristaloid pada seluruh prosedur operasi bedah jantung terbuka dewasa dengan mesin pintas jantung paru yang dipublikasikan dalam bahasa Inggris. Artikel sekunder yang bukan merupakan jurnal dan research article akan dieksklusi. Cochrane Risk of Bias digunakan untuk menilai potensi bias.
Hasil penelitian. Kami mengidentifikasi 6 uji acak yang dengan total 796 pasien yang menjalani bedah jantung terbuka (CABG, bedah katup, transplantasi), 431 mendapatkan perlakuan kardioplegia darah, 365 lain mendapat perlakuan kardioplegi kristaloid. Subyek berkisar antara 60 hingga 297 pasien. Mayoritas membahas perbandingan kardioplegia darah dan kristaloid pada bedah jantung revaskularisasi koroner (CABG). Keseluruhan studi memiliki risiko bias rendah.
Kesimpulan. Kardioplegia darah menunjukkan luaran yang lebih baik dibandingkan kardioplegia kristaloid. Namun, perlu dilakukan penelitian lebih lanjut terkait analisis dari hasil perlindungan miokard masing-masing larutan kardioplegia.
.....Background. Myocardial ischemia is commonly occured due to aortic cross-clamping during open-heart surgery using a cardiopulmonary bypass (CPB) machine. Cardioplegia, as cardioprotective method, can be divided into blood or crystalloid base. This systematic review aims to describe the effectiveness of two types of cardioplegic solutions in adult open-heart surgery procedures by focusing on their effects on cardiac enzyme, atrial fibrillation incidence, myocardial infarction, inotropic use, length of stay in ICU, and postoperative mortality
Methodology. We searched on several databases, including COCHRANE, PubMed, PMC, and Google Scholar to identify all randomized controlled trials published in English that compared levels of myocardial injury, atrial fibrillation incidence, myocardial infarction, inotropic use, intensive care length of stay, and mortality postsurgery between adults underwent CPB who received blood cardiolegia and crystalloid cardioplegia. Secondary publications were excluded. Cochrane Risk of Bias tool was used to assess for

potential biases.
Outcome. We identified 6 randomized trials with a total of 796 patients underwent open heart surgery (CABG, valve surgery, transplantation), 431 receiving blood cardioplegia, another 365 receiving crystalloid cardioplegia. Subjects ranged from 60 to 297 patients. Most studies discussed the comparison of blood cardioplegia and crystalloids in CABG. The entire study had a low risk of bias.
Conclusion. Blood cardioplegia provided better outcome compared to crystalloid cardioplegia. However, further analysis should be developed to facilitate the conduct of high quality trials.
Keywords. Cardiac surgery, cardiac enzyme, blood cardioplegia, crystalloid cardioplegia.