

## ABSTRAK

Latar belakang: Cairan *priming* adalah cairan yang dipakai untuk mengisi sirkuit CPB sebelum dihubungkan dengan pasien, dan pada setiap institusi terdapat perbedaan komposisi. Komposisi *priming* ini dapat mempengaruhi keseimbangan asam basa durante CPB. Penelitian ini bertujuan menganalisa perubahan asam basa pada penggunaan cairan *priming* Ringer Laktat pada operasi bedah jantung. Metode: penelitian ini melibatkan 24 subyek berusia lebih dari 18 tahun yang menjalani operasi bedah jantung elektif. Pada semua subyek dilakukan pemberian cairan *priming* RL 1500ml dan dilakukan pengambilan sampel darah setelah 5 menit, tiap 1 jam dan saat *rewarming* CPB untuk melihat analisa gas darah, Hb, HCT, Elektrolit, albumin dan laktat. Hasil: Terdapat penurunan yang signifikan nilai Hb, HCT, elektrolit dan albumin setelah pemberian *priming*, walaupun nilai pH dalam batas normal. Durasi CPB dan durasi cross clamp mempengaruhi secara signifikan keseimbangan asam basa, dan didapatkan hiperlaktatemia terjadi pada 4,2% pasien setelah *rewarming*. Kesimpulan: Cairan *priming* RL tidak mempengaruhi perubahan keseimbangan asam basa durante CPB.

Kata kunci: *cross clamp*, durasi CPB, keseimbangan asam basa, laktat, *priming*

### **ABSTRACT**

*Background: Priming solution is a solution used to fill the Cardiopulmonary bypass (CPB) circuit before connected to the patient. In which the composition of this solution could be difference in each institution. This priming composition may affect the acid-base balance during CPB. The aim of this study is to analyze the changes of acid-base in the use of priming solution Lactate Ringer (LR) during open heart surgery. Methods: This study involved 24 subjects aged over 18 who underwent elective cardiac surgery. All subjects administered LR 1500ml as a priming and blood sample was taken after 5 minutes, every 1 hour and during rewarming of CPB to evaluate the blood gas, Hb, HCT, electrolytes, albumin and lactate. Results: There was a significant decrease in values of Hb, HCT, electrolytes and albumin after administration of priming, although the pH values were within normal limits. The duration of CPB and duration of cross clamp significantly affected the acid-base balance, and hyperlactataemia was found in 4.2% of patients after rewarming. Conclusions: Priming fluid LR does not affect the acid-base balance during CPB.*

*Keywords: Acid-base balance, cardiopulmonary bypass, cross clamp, CPB duration, priming Lactate Ringer.*