

## Hubungan NT-proBNP dengan sindrom curah jantung rendah pascabedah jantung terbuka pada pasien pediatrik sianotik = Correlation between NT-ProBNP and low cardiac output syndrome in pediatric patients with cyanotic congenital heart disease undergoing open heart surgery

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### Abstrak

Peran NT-proBNP sebagai penanda biologis untuk mengetahui terjadinya sindrom curah jantung rendah pada pasien pediatrik dengan penyakit jantung bawaan sianotik pascabedah jantung terbuka belumlah diketahui. NT-proBNP diharapkan dapat menjadi penanda sindrom curah jantung rendah sehingga dapat mengurangi morbiditas dan mortalitas. Penelitian cross sectional ini melibatkan 40 pasien pediatrik dengan penyakit jantung bawaan sianotik yang menjalani pembedahan jantung terbuka di Rumah Sakit Jantung dan Pembuluh Darah Harapan Kita, selama bulan Maret 2019-April 2019. Terdapat perbedaan bermakna antara kadar NT-proBNP prabedah, 4 jam pascabedah, 24 jam pascabedah dan 72 jam pascabedah terhadap kejadian sindrom curah jantung rendah ( $p < 0,001$ ). Kadar NT-proBNP tertinggi pada 24 jam pasca bedah dengan perbedaan bermakna terhadap kadar NT-proBNP prabedah ( $p < 0,001$ ), 4 jam pascabedah dan 72 jam pascabedah ( $p < 0,001$ ). Diperoleh pula variabel lain yang berhubungan secara bermakna dengan NT-proBNP yaitu usia, berat badan, jenis penyakit jantung bawaan sianotik, lama aortic cross clamp, lama cardiopulmonary bypass, lama ventilasi mekanik dan lama rawat PICU. Dapat disimpulkan bahwa kadar NT-proBNP yang tinggi sebagai penanda kejadian sindrom curah jantung rendah.

.....The role of NT-proBNP as a biological marker to determined the occurrence of low cardiac output syndromes in pediatric patients with cyanotic congenital heart disease after open heart surgery was unknown. NT-proBNP was expected to be a marker of low cardiac output syndrome so that it can reduce morbidity and mortality. This cross-sectional study involved 40 pediatric patients with cyanotic congenital heart disease who underwent open heart surgery at National Cardiovascular Centre Harapan Kita, during March 2019-April 2019. There were significant differences between pre-operative levels of NT-proBNP, 4 hours postoperatively, 24 hours postoperatively and 72 hours postoperatively with the incidence of low cardiac output syndrome ( $p < 0.001$ ). The highest NT-proBNP level was 24 hours postoperatively with a significant difference in preoperative levels of NT-proBNP ( $p < 0.001$ ), 4 hours postoperatively and 72 hours postoperatively ( $p < 0.001$ ). Other variables that were significantly associated with NT-proBNP were age, body weight, type of cyanotic congenital heart disease, duration of aortic cross clamp, duration of cardiopulmonary bypass, duration of mechanical ventilation and length of stay of PICU. It can be concluded that high NT-proBNP level as a marker of low cardiac output syndrome.