

# Saturasi Oksigen Campur, Gap pCO<sub>2</sub> dan Laktat sebagai Penanda Sindrom Curah Jantung Rendah Pasca-bedah Jantung Terbuka pada Anak = Mixed Vein Saturation pCO<sub>2</sub> Gap and Lactate as Biomarker in Low Cardiac Output Syndrome Post Pediatric Open Cardiac Surgery

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## Abstrak

Latar belakang. Penyakit jantung bawaan PJB merupakan kelainan kongenital yang paling sering terjadi pada anak dibandingkan dengan kelainan kongenital lainnya. Upaya memperbaiki struktur anatomi PJB mengharuskan dilakukannya bedah jantung korektif. Di balik perkembangan pintas jantung paru dan tata laksana pasca-bedah, sindrom curah jantung rendah low cardiac output syndrome, LCOS masih menjadi komplikasi mayor, sehingga diperlukan parameter untuk membantu diagnosis LCOS secara dini. Kadar laktat, gap pCO<sub>2</sub> dan SvO<sub>2</sub> dilaporkan berkorelasi terhadap penurunan curah jantung, morbiditas dan mortalitas pasca-bedah jantung. Tujuan. Mengetahui peran kadar laktat, gap pCO<sub>2</sub> arteri-vena dan SvO<sub>2</sub> dalam deteksi dini sindrom curah jantung rendah pasca-bedah jantung terbuka pada anak. Metode. Penelitian ini menggunakan desain kohort prospektif dilaksanakan dari 1 Agustus hingga 30 Oktober 2017 di ICU Pelayanan Jantung Terpadu RSUPN Dr. Cipto Mangunkusumo. Subyek adalah pasien anak yang menjalani bedah jantung terbuka. Pasca-bedah saat perawatan di ICU pasien dimonitor waktu terjadinya tanda-tanda klinis sindrom curah jantung rendah, serta dilakukan pemeriksaan kadar laktat, gap pCO<sub>2</sub> dan SvO<sub>2</sub> pada 15 menit, 4 jam dan 8 jam pasca-bedah. Analisis perbedaaan dilakukan menggunakan uji indepent T-test dan alternatifnya Mann-Whitney dengan nilai kemaknaan P .....Background. Congenital heart disease CHD is the most common congenital disorder in children compared with other congenital abnormalities. To fix CHD requires corrective cardiac surgery. Behind the development of cardiopulmonary bypass surgery and post surgical intensive care, low cardiac output syndrome LCOS still become a major complication that require parameter to diagnose LCOS early lactate level, pCO<sub>2</sub> gap and SvO<sub>2</sub> were reported have correlation with decreasing of cardiac output, morbidity and post cardiac surgery mortality.Objective. To find out the role of lactate levels, pCO<sub>2</sub> gap arterial vein and SvO<sub>2</sub> in early detection of low cardiac output syndrome in post open heart surgery in children.Method. This study used a prospective cohort design. From 1 August until 30 October 2017 in ICU of Integrated Cardiac Centre Dr. Cipto Mangunkusumo Hospital. Subjects were pediatric patients who underwent cardiac surgery. Post surgery procedure the patient 39 s was monitored in ICU for clinical signs of low cardiac output syndrome and examined for lactate levels, gap pCO<sub>2</sub> and SvO<sub>2</sub> at 15 minutes, 4 hours and 8 hours. The difference analysis was performed using indepent T test and Mann Whitney as alternative with significance value P