# Luaran jangka pendek pasca-bedah jantung anak dan faktor risiko komplikasi berat di RSUPN Dr. Cipto Mangunkusumo Jakarta = Outcome of paediatric cardiac surgery and risk factors of major complication after cardiac surgery at the Dr. Cipto Mangunkusumo Hospital Indonesia

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Abstrak

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Latar belakang: Luaran pasca-bedah jantung penting diketahui untuk menilai kinerja pelayanan bedah jantung anak, sehingga kualitas pelayanan dapat ditingkatkan.

Tujuan: Mengetahui luaran jangka pendek (mortalitas, komplikasi pasca-bedah berat lain, dan komplikasi pasca-bedah yang berat) pada anak yang dilakukan bedah jantung. Selain itu, ingin mengetahui faktor risiko terjadinya komplikasi berat pasca-bedah jantung dan membuat sistem skor dari faktor-faktor risiko tersebut.
Metode: Setiap anak dengan penyakit jantung yang dilakukan operasi jantung di RSUPN Dr Cipto Mangunkusumo Jakarta sejak April 2014 sampai Maret 2015 diikuti setiap hari sampai pasien pulang atau meninggal. Data demografis, mortalitas, morbiditas atau komplikasi pasca-bedah jantung, dan faktor risiko terjadinya morbiditas pasca-operasi yang berat diambil dari rekam medis. Pasien yang sudah pulang dari rumah sakit, dalam waktu 30 hari pasca-operasi dihubungi untuk mendapatkan data kondisi pasien dalam waktu tersebut (hidup atau meninggal).
Hasil: Selama penelitian didapatkan 258 anak dilakukan bedah jantung. PJB terbanyak yang dilakukan bedah jantung adalah ventricle septal defect (28,7%) dan tetralogy of Fallot (24,4%). Komplikasi pasca-bedah jantung terjadi pada 217 (84,1%) anak dan komplikasi berat terjadi pada 49 anak (19%). Komplikasi pasca-bedah jantung terbanyak adalah hipokalsemia pada 163 (63,2%) anak, hiperglikemia 159 (61,6%), low cardiac output syndrome 52 (20,2%), aritmia 48 (18,6%), sepsis 45 (17,4%), dan efusi pleura 39 (15,1%). Komplikasi berat meliputi in-hospital mortality terjadi pada 33 (12,7%) anak dan mortalitas dalam waktu 30 hari pasca-bedah jantung terjadi pada 35 (13,6%) anak, henti jantung 13 (5%), operasi jantung ulang 10 (3,9%), dan gagal organ multipel 19 (7,4%). Faktor risiko yang berhubungan dengan meningkatnya komplikasi pasca-bedah jantung yang berat adalah peningkatan kadar laktat darah [OR 30,7 (IK 95% 8,1-117,6)], PJB sianotik [OR 4,4 (IK 95% 1,2-15,8), dan pemakaian inotropik yang tinggi [OR 7,8 (IK 95% 1,6-38,9)]. Skor faktor risiko  3 mampu memprediksi anak yang mengalami komplikasi berat pasca-bedah jantung dengan sensitivitas skor 93,9% dan spesifisitas skor 84,2%, dan area di bawah kurva receiver operating characteristic (ROC) adalah 0,94.
Simpulan: Mortalitas di rumah sakit pasca-bedah jantung anak sebesar 12,7% dan  mortalitas 30 hari pasca-bedah 13,6%. Komplikasi berat lain pasca-bedah 13,6%. Faktor risiko yang berhubungan dengan meningkatnya komplikasi pasca-bedah jantung yang berat adalah peningkatan kadar laktat darah, PJB sianotik, dan pemakaian inotropik tinggi pasca-bedah jantung. Skor faktor risiko  3 mampu memprediksi anak yang mengalami komplikasi berat pasca-bedah jantung dengan sensitivitas skor 93,9% dan spesifisitas skor 84,2%.

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ABSTRACT<br>
Background: Outcome of children with cardiac surgery is important to evaluate the performance of cardiac surgery program. Identifying the risk factors for major adverse events after cardiac surgery is also important to improve patient care.
Objective: To evaluate the incidence of short-term outcome in children after cardiac surgery, including mortality, complication or morbidity, major complications, and the risk factors associated with major adverse events (major complications) at the Dr Cipto Mangunkusumo Hospital, Indonesia.
Methods: A prospective observational study was conducted from April 2014 until March 2015. All children conducted cardiac surgery, were monitored from the time the cardiac surgery performed until patients were discharged or deceased. During the follow up of all recruited patients, factors associated with the risk of developing major adverse events were identified.
Results: A total of 258 patients were recruited during the study period. Of the total, 134 (51.9%) were female. The mean age of the patients was 53.3±3.8 months. Among the patients, 217 (84.1%) had complications. The most complications occurred after cardiac surgery were hypocalcaemia in 163 (63.2%), hyperglycemia in 159 (61.6%), low cardiac output syndrome in 52 (20.2%), arrhythmia in 48 (18.6%), sepsis in 45 (17.4%), and pleural effusion in 39 (15.1%) children. Further, 49 (19%) of recruited patients had major adverse events (major complications), including in-hospital mortality in 33 (12.7%) and 30-day mortality in 35 (13.6%), cardiac arrest in 13 (5%), the need for re-operation in 10 (3.9%), and multiple organ failure in 19 (7.4%) children. Factors associated with the occurrence of major complications were increase in blood lactate [OR 30.7 (95% CI 8.1-117.6)], cyanotic congenital heart disease [OR 4.4 (95% CI 1.2-15.8), and high inotropes on leaving operating room [OR 7.8 (95% CI 1.6-38.9)]. Risk factor score 3 could predict major complications after cardiac surgery with sensitivity of 93.9% and specificity of 84.2%, and area under receiver operating characteristic (ROC) curve was 0.94.
Conclusion: In-hospital mortality after paediatric cardiac surgery at Dr Cipto Mangunkusumo hospital is 12,7% and 30-day mortality is 13,6%. Increase in blood lactate, cyanotic congenital heart disease, and high inotropes on leaving operating room are associated with mortality and other major complications in children following cardiac surgery. Risk score  3 can predict the development of major complication in children after cardiac surgery with sensitivity 93,9% and specificity 84,2%.;Background: Outcome of children with cardiac surgery is important to evaluate the performance of cardiac surgery program. Identifying the risk factors for major adverse events after cardiac surgery is also important to improve patient care.

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