



PREDIKTOR GAGAL JANTUNG PADA ANAK DENGAN PENYAKIT JANTUNG BAWAAN

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INTISARI

Latar belakang: Anak dengan penyakit jantung bawaan (PJB) berisiko mengalami gagal jantung yang menyebabkan kematian. Penelitian mengenai gagal jantung pada anak masih sangat terbatas. Identifikasi prediktor gagal jantung pada anak PJB diharapkan dapat memandu kita dalam menetapkan strategi preventif gagal jantung.

Tujuan: Untuk menentukan prediktor gagal jantung pada anak dengan penyakit jantung bawaan.

Metode: Studi *nested case control* dilakukan dengan data sekunder secara *nonprobability sampling* dari data penelitian kohort “*reducing nosocomial infection and improving rational antibiotic use in children in Yogyakarta, Indonesia*” pada anak berusia 1 bulan-18 tahun yang terdiagnosis PJB di RSUP Dr Sardjito sejak tahun 2011-2013. Sebanyak 100 anak yang gagal jantung diidentifikasi dan dianggap sebagai kelompok kasus dan 100 anak tanpa gagal jantung sebagai kelompok kontrol. Variabel usia, jenis kelamin, jenis PJB, kompleksitas PJB, adanya sindrom, adanya pneumonia dan malnutrisi dianalisis dan dipresentasikan sebagai rasio odd (OR) dan *confidence interval* 95% (CI 95%).

Hasil: Dari 2646 subyek penelitian *reducing nosocomial infection and improving rational antibiotic use in children in Yogyakarta, Indonesia*”, kami merekrut 200 subyek (7,5%), sebanyak 50% (100/200) mengalami gagal jantung dan 15% dari total pasien meninggal saat perawatan. Hasil analisis multivariat menunjukkan bahwa jenis PJB asianotik (OR: 2,69; 95% CI: 1,45-5,00) dan adanya pneumonia (OR 2,04; 95% CI: 1,03-4,06) terbukti bermakna secara statistik sebagai prediktor gagal jantung pada anak dengan PJB. Jenis kelamin, usia, kompleksitas PJB, sindrom dan malnutrisi tidak terbukti secara bermakna sebagai prediktor gagal jantung.

Kesimpulan: Prediktor gagal jantung pada anak dengan PJB adalah jenis PJB asianotik dan adanya pneumonia.

Kata kunci: penyakit jantung bawaan, gagal jantung, prediktor, anak, Indonesia



PREDICTORS OF HEART FAILURE IN CHILDREN WITH CONGENITAL HEART DISEASE

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ABSTRACT

Background: Heart failure remains a significant contributor to morbidity and mortality in children with congenital heart disease (CHD). Few data exist on children with heart failure. We need to identify predictors of heart failure in children with CHD to guide a preventive strategy in heart failure.

Objective: To understand the predictors of heart failure of children with congenital heart disease.

Method: A nested case control study was performed using secondary data based on a prospective study “*reducing nosocomial infection and improving rational antibiotic use in children in Yogyakarta, Indonesia*” previously conducted in Dr Sardjito tertiary hospital in Yogyakarta between 2011-2013. Database was performed for children aged 1 month-18 years who had been diagnosed with CHD from the echocardiography. Age, sex, type of CHD, CHD complexity, syndrome, pneumonia and malnutrition were analyzed as the predictors of heart failure, assessed and presented in odd ratio (OR) and its confidence interval of 95% (95% CI).

Result: A total of 2646 children were hospitalized in Dr Sardjito tertiary hospital during the study period. Of those, 216 children (8.16%) had CHD and 200 children (7.5%) were eligible for the inclusion criteria. Among 100 children with heart failure, with median age of 1.5 years, 30 (15%) died during hospitalization. Multivariate analysis showed that acyanotic CHD (OR: 2.695; 95% CI: 1.45-5.00) and the presence of pneumonia (OR 2.043; 95% CI: 1.03-4.06) were statistically significant as the independent predictors of heart failure in children with CHD. Meanwhile, sex, age, CHD complexity, syndrome, and malnutrition were not significantly associated with heart failure in children with CHD.

Conclusion: The predictors of heart failure in children with CHD were acyanotic CHD and presence of pneumonia.

Keywords: congenital heart disease, heart failure, predictor, children, Indonesia