

FAKTOR PREDIKTOR MORTALITAS PASIEN ANAK DENGAN GAGAL GINJAL AKUT SEPTIK DI RSUP DR. SARDJITO

Elsa Kejora*, Ekawaty Lutfia Haksari, Kristia Hermawan*****

* Residen Ilmu Kesehatan Anak, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan Universitas Gadjah Mada, Yogyakarta, Indonesia

**Neonatologi, Ilmu Kesehatan Anak, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan Universitas Gadjah Mada, Yogyakarta, Indonesia

*** Nefrologi, Ilmu Kesehatan Anak, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan Universitas Gadjah Mada, Yogyakarta, Indonesia

INTISARI

Latar belakang: Gagal ginjal akut (GGA) septik merupakan kondisi GGA yang terjadi simultan dengan sepsis, tanpa disertai penyebab GGA lain yang jelas. Kejadian GGA septik diketahui berhubungan dengan luaran mortalitas dan morbiditas yang tinggi. Beberapa faktor prediktor kejadian mortalitas telah diteliti sebelumnya, namun menunjukkan hasil inkonsisten, dan beberapa faktor belum pernah diteliti pada pasien anak.

Tujuan: Menentukan GGA fase *failure*, kelebihan cairan, trombositopenia, abnormalitas kadar natrium, hiperkalemia, bikarbonat rendah, hipoalbuminemia, prokalsitonin tinggi, dan rasio neutrofil limfosit (RNL) tinggi sebagai faktor prediktor mortalitas pada anak dengan GGA septik.

Metode: Dilakukan studi kohort retrospektif dengan subyek anak berusia 1 bulan-18 tahun dengan GGA septik yang terindikasi perawatan intensif di RSUP Dr. Sardjito periode Januari 2017-September 2021 yang memenuhi kriteria inklusi dan eksklusi. Sampel diambil secara *total sampling*. Analisis bivariat untuk menghitung nilai p serta analisis multivariat dengan regresi logistik. Hubungan antar variabel dinyatakan dengan *relative risk* (RR) dan interval kepercayaan 95% dengan tingkat kemaknaan statistik $p < 0,05$.

Hasil: Seratus tiga puluh empat subyek dengan GGA septik diikutsertakan, dengan median usia 36 (8; 143,25) bulan. GGA diklasifikasikan sebagai fase *risk* (26,1%), *injury* (20,1%), dan *failure* (53,7%). Angka mortalitas sebesar 79,8%. Pada analisis multivariat didapatkan kelebihan cairan $>10\%$ (*adjusted RR*=5,653; IK95%=1,521-21,006; $p=0,010$) merupakan faktor prediktor independen kejadian mortalitas pada anak dengan GGA septik.

Kesimpulan: Kelebihan cairan $>10\%$ merupakan faktor prediktor independen kejadian mortalitas pada anak dengan GGA septik, sedangkan kadar kalium $<3,5$ mmol/L merupakan faktor protektif terhadap mortalitas.

Kata kunci: Gagal ginjal akut septik, faktor prediktor, mortalitas

PREDICTIVE FACTORS OF MORTALITY IN CHILDREN WITH SEPTIC ACUTE KIDNEY INJURY IN DR. SARDJITO GENERAL HOSPITAL

Elsa Kejora*, Ekawaty Lutfia Haksari, Kristia Hermawan*****

*Pediatric Resident, Department of Child Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

**Pediatric Neonatology Division, Department of Child Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

***Pediatric Nephrology Division, Department of Child Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

ABSTRACT

Background: Septic acute kidney injury (AKI) defined as simultaneous presence of AKI and sepsis without other significant contributing factors explaining AKI. Septic AKI is known as a significant factor that contributes to higher mortality and morbidity. Several predictors of mortality have been investigated previously, but showed inconsistent results, and few predictors have not been studied in pediatric population yet.

Objective: To determine AKI failure stage, fluid overload, thrombocytopenia, natrium abnormalities, hyperkalemia, low bicarbonate, hypoalbuminemia, high procalcitonin and high neutrophil-lymphocyte ratio (NLR) as predictive factors of mortality.

Methods: This was a retrospective cohort study of children aged 1 month–18 years with septic AKI that were admitted for intensive care in Dr. Sardjito Hospital during January 2017 – September 2021. Samples were taken with the total sampling method. Bivariate analysis using chi-square test to calculate p-value and multivariate analysis with logistic regression was conducted. The relationship between variables was presented as relative risk (RR), 95% confidence intervals (95% CI), and statistical significance levels $p < 0.05$.

Results: One hundred and thirty-four children with septic AKI were included, with median age of 36 (8; 143,25) months. AKI was classified as risk (26,1%), injury (20,1%), and failure (53,7%) phase. The mortality rate was 79,8%. Multivariate analysis showed that $>10\%$ fluid overload (adjusted $RR=5.653$; $95\% CI=1.521-21.006$; $p=0.010$) was an independent predictor of mortality.

Conclusions: More than 10% fluid overload was an independent predictor of mortality in children with septic AKI, while potassium level $<3,5$ mmol/L was a protective factor against mortality.

Keywords: Septic acute kidney injury, predictive factor, mortality