Hubungan Kadar Albumin Serum dengan *Neutrophil Gelatinase-Associated Lipocalin* Urine pada Penderita Sindrom Nefrotik Anak

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Abstrak

Neutrophil gelatinase-associated lipocalin (NGAL) merupakan penanda biologis kerusakan ginjal yang kadarnya meningkat sejalan dengan terjadinya kerusakan pada tubulus proksimal. Tujuan penelitian untuk menganalisis hubungan kadar albumin serum dengan NGAL urine pada penderita SN anak dalam serangan. Subjek adalah penderita SN dalam serangan berusia 1−14 tahun. Penelitian observasional analitik dengan metode potong lintang dilaksanakan di Departemen Ilmu Kesehatan Anak Rumah Sakit Dr. Hasan Sadikin Bandung dan Rumah Sakit Umum Daerah Kota Bandung dari September 2011 sampai Maret 2012. Pemeriksaan kadar albumin serum dilakukan dengan metode *bromcresol green* dan NGAL urine dengan metode *enzyme-linked immunosorbent assay* (ELISA). Uji statistik dengan Korelasi Pearson untuk data dengan distribusi normal. Subjek terdiri atas 14 laki-laki dan 10 perempuan. Kadar albumin serum rerata dan NGAL urine rerata adalah 1,37 (SB 0,33) g/dL dan 2.719,37 (SB 3.781,82) ng/mL. Hasil analisis menunjukkan hubungan bermakna antara penurunan kadar albumin serum dan peningkatan kadar NGAL urine (r=-0,519; p=0,009). Simpulan, semakin rendah kadar albumin serum maka semakin tinggi kadar NGAL urine. Pada penderita SN anak dengan hipoalbuminemia perlu diwaspadai penurunan fungsi ginjal. [**MKB.** 2014;46(3):130–3]

Kata kunci: Albumin, anak, NGAL urine, sindrom nefrotik

Correlation between Serum Albumin and Urine Neutrophil Gelatinase Associated Lipocalin Levels in Children with Nephrotic Syndrome

Abstract

Neutrophil gelatinase-associated lipocalin (NGAL) is a biological marker found in kidney damage that increases in proximal tubular damage. The purpose of this study was to analyze the correlation between serum albumin and urine NGAL (uNGAL) levels in children with NS at initial presentation or relapse. Subjects in this study were 1−14 year-old children with NS. An observational analytical study with cross sectional design was conducted in the Pediatric Department of Dr. Hasan Sadikin General Hospital Bandung and Bandung City Public Hospital from September 2011 to March 2012. The serum albumin level and uNGAL level were measured using bromcresol green method and enzyme-linked immunosorbent assay (ELISA), respectively. Data were analyzed using Pearson correlation test on normal distribution data. Subjects consisted of 14 boys and 10 girls. Mean serum albumin and uNGAL levels were 1.37 (SD 0.33) g/dL and 2,719.37 (SD 3,781.82) ng/mL, respectively. There was a significant correlation between decreased albumin level and elevated uNGAL level (r=−0.519, p=0.009). In conclusion, the lower the albumin level, the higher the uNGAL level. An awareness should be developed towards the possibility that hypoalbuminemia in children with NS might decrease renal function. [**MKB.** 2014;46(3):130–3]

Key words: Albumin, children, nephrotic syndrome, uNGAL

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