

DIAJUKAN TANGGAL

**HUBUNGAN DERAJAT PROTEINURIA, KADAR ALBUMIN DAN
KOLESTEROL SERUM DENGAN KADAR ZINC
PADA ANAK SINDROM NEFROTIK**

(Kajian saat Serangan dan Remisi)



TESIS

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TESIS

Hubungan Derajat Proteinuria, Kadar Albumin Dan Kolesterol Serum Dengan Kadar Zinc Pada Anak Sindrom Nefrotik (Kajian Saat Serangan Dan Remisi)

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ABSTRAK

Hubungan Derajat Proteinuria, Kadar albumin dan Kolesterol Serum dengan Kadar *Zinc* pada Anak sindrom Nefrotik (Kajian saat Serangan dan Remisi)

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Pendahuluan: gangguan *glomerular filtration complex* (GFC) pada anak sindrom nefrotik (SN), yang digambarkan dengan derajat proteinuria, meloloskan berbagai komponen serum melalui urin termasuk *zinc*. Albumin, yang merupakan transporter *zinc*, menurun pada SN. Defisiensi *zinc* dilaporkan mempengaruhi metabolisme lipid, namun hubungannya pada anak SN belum diketahui.

Tujuan: untuk mengetahui hubungan derajat, kadar albumin dan kolesterol serum dengan kadar *zinc* pada anak SN saat serangan dan saat remisi

Metode: penelitian *cross sectional* pada 25 anak SN saat serangan dan 30 anak SN saat remisi. Subjek diperiksa derajat proteinuria, kadar albumin, kolesterol total, dan *zinc* serum. Data dianalisis menggunakan SPSS 16.

Hasil: derajat proteinuria anak SN saat serangan paling banyak +3 (44%) sedangkan saat remisi 0 (86.7%). Rerata kadar albumin saat serangan 2.23 ± 0.72 mg/dL, saat remisi 4.26 ± 0.58 mg/dL. Rerata kadar kolesterol total saat serangan 458.64 ± 176.27 mg/dL, saat remisi 204.20 ± 55.97 mg/dL rerata kadar *zinc* saat serangan 75.64 ± 18.19 ug/dL, saat remisi 120 ± 38.42 ug/dL. Derajat proteinuria saat serangan berhubungan secara bermakna dengan kadar *zinc* serum ($p = 0.044$). Kadar albumin dan kolesterol serum tidak berkorelasi secara bermakna dengan kadar *zinc* serum pada saat serangan maupun remisi.

Kesimpulan: rerata kadar *zinc* anak SN saat serangan lebih rendah dibandingkan saat remisi. Kadar *zinc* yang rendah berhubungan dengan semakin beratnya derajat proteinuria saat serangan. Kadar albumin dan kolesterol serum tidak berkorelasi dengan kadar *zinc* serum pada anak SN saat serangan maupun remisi.

Kata kunci: Sindrom nefrotik, Proteinuria, Albumin, Kolesterol, *Zinc*, Anak

ABSTRACT

Relationship of Proteinuria, Albumin and Cholesterol Levels with Zinc in Childhood Nephrotic Syndrome (study on attack and remission)

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Introduction: impaired glomerular filtration complex (GFC) in childhood nephrotic syndrome (NS), marked by proteinuria degree, losses varying serum components including zinc. Albumin, as the main transporter of zinc, is decreased in NS. Previous studies reported that zinc deficiency altered lipid metabolism, but their relationship in childhood NS is unknown.

Aims: to acknowledge the relationship of proteinuria, albumin, and cholesterol levels with zinc in childhood NS on attack and remission.

Methods: a cross-sectional study among 25 childhood NS during attack and 30 during remission. Data on proteinuria degree, albumin, total cholesterol, and zinc levels were obtained. SPSS 16 was used for analysis.

Results: proteinuria degree was predominantly +3 (44%) during attack and 0 (86.7%) during remission. Mean albumin level was 2.23 ± 0.72 mg/dL during attack and 4.26 ± 0.58 mg/dL during remission. Mean total cholesterol level was 458.64 ± 176.27 mg/dL during attack and 204.20 ± 55.97 mg/dL during remission. Mean zinc level was 75.64 ± 18.19 ug/dL during attack and 120 ± 38.42 ug/dL during remission. Proteinuria degree during attack was significantly related to zinc level ($p = 0.044$). Mean serum albumin and cholesterol levels did not significantly correlate with mean serum zinc levels either during attack or remission.

Conclusions: mean serum zinc level in childhood NS during attack was lower as compared to remission. Lower zinc level was related to higher degree of proteinuria. Serum albumin and cholesterol levels did not correlate with zinc levels in childhood NS either during attack or remission.

Keywords: Nephrotic Syndrome, Proteinuria, Albumin, Cholesterol, Zinc, Childhood