

Correlation between Serum Zinc Level and Nutritional Status in Liver Cirrhotic Patient Using Parameter Triceps Skinfold Thickness Anthropometric

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ABSTRACT

Background: Zinc is an essential trace element that involves in many physiologic roles. Zinc deficiency is common in patient with liver cirrhosis and leading to malnutrition.

Objective: To understand the correlation between serum zinc level and nutritional status of liver cirrhotic patient using triceps skinfold thickness anthropometric parameter.

Method: A cross sectional method was applied in this research. Subject were adult liver cirrhotic patients who were visiting Internal Medicine Polyclinic or who were hospitalized in Internal Medicine Ward of Dr. Sardjito General Hospital, Yogyakarta. Blood sample was taken in the morning (06.00-12.00 a.m.) after patients had fasted for at least 8 hours. Zinc level were measured by the flame atomic absorption spectrophotometry (AAS) method and were done in Integrated Research and Testing Laboratory (IRTL) Gadjah Mada University. Triceps skinfold thickness was measured on non-dominant arm in free position.

Results: There were 26 subject, 19 are male (73,08%) and 7 are women (26,92%). The mean value of zinc serum level was $82,57 \pm 30,02$ $\mu\text{g/dl}$. There were 9 subject with hypozincemia and 13 subject were categorized malnutrition. There were no statistically significant correlation between zinc serum level and nutritional status in liver cirrhosis patient ($r=0,218$; $p=0,284$).

Conclusion: There were no significant correlation between zinc serum level and triceps skinfold thickness in liver cirrhosis patient ($p>0,05$).

Keywords: liver cirrhosis, zinc deficiency, zinc serum, nutritional status, triceps skinfold thickness, malnutrition

INTISARI

Latar Belakang : Seng merupakan *trace element* penting yang terlibat pada berbagai peran fisiologis. Defisiensi seng umum terjadi pada pasien sirosis hati dan dapat menyebabkan terjadinya malnutrisi.

Tujuan penelitian : untuk mengetahui hubungan antara kadar seng serum dengan parameter antropometrik tebal lemak trisep pada penderita sirosis hati.

Metode penelitian : Rancangan penelitian adalah potong lintang. Subyek adalah penderita sirosis hati dewasa yang berkunjung ke Poliklinik Penyakit Dalam atau yang dirawat inap di Bangsal Perawatan Bagian Penyakit Dalam RSUP Dr. Sardjito Yogyakarta. Sampel darah untuk pemeriksaan seng diambil pada pagi hari (pukul 06.00-12.00) setelah subyek berpuasa selama minimal 8 jam. Pengukuran kadar seng dengan metode *flame atomic absorption spectrophotometry* (AAS) dan dilakukan di Laboratorium Penelitian dan Pengujian Terpadu (LPPT) Universitas Gadjah Mada (UGM). Pengukuran tebal lemak trisep dilakukan sebanyak 3 kali menggunakan kaliper dan hasilnya dibuat rata-rata.

Hasil penelitian : Subyek sebanyak 26 orang, 19 laki-laki (73,08%) dan 7 perempuan (26,92%). Rata-rata kadar seng serum adalah $82,57 \pm 30,02$ $\mu\text{g/dl}$. Terdapat 9 subyek dengan *hypozincemia* dan 13 subyek dikategorikan malnutrisi. Terdapat korelasi lemah tidak bermakna antara kadar seng serum dan status nutrisi penderita sirosis hati ($r=0,218$; $p=0,284$).

Kesimpulan : tidak terdapat hubungan antara kadar seng serum dengan parameter antropometrik tebal lemak trisep pada penderita sirosis hati.