

Profil Asam Amino pada Pasien Terkonfirmasi Coronavirus Disease 2019 (COVID-19) Severe dan Non-severe dengan Metode Liquid Chromatography Tandem Mass Spectrometry = The Amino Acid Profile in Severe and Non-Severe COVID-19 patients with Liquid Chromatography Tandem Mass Spectrometry method

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Abstrak

Coronavirus Disease 2019 (COVID-19) disebabkan oleh infeksi virus SARS CoV-2, dan telah dilaporkan banyak menyebabkan kematian di berbagai negara. Pada pasien COVID-19, ditemukan perubahan kadar asam amino, baik asam amino esensial maupun non esensial, yang dikaitkan dengan proses inflamasi dan infeksi. Tujuan penelitian ini adalah mengetahui profil asam amino esensial dan non esensial, serta mengetahui perbedaannya pada pasien terkonfirmasi COVID-19 severe dan non severe. Penelitian dilakukan dengan metode potong lintang di RSUPN Dr. Cipto Mangunkusumo dan Laboratorium HGRC pada Januari-Desember 2021. Total subjek adalah 128 subjek, terdiri dari 70 subjek (54,7%) kelompok severe dan 58 subjek (45,3%) kelompok non severe. Profil asam amino pada pasien terkonfirmasi COVID-19 severe dan non-severe, secara klinis ditemukan sedikit perbedaan dengan rentang effect size d 0,08-0,48. Tidak terdapat perbedaan bermakna keseluruhan profil asam amino antara kelompok severe dan non severe ($p>0,05$).

Temuan ini diharapkan dapat memberi kontribusi dalam proses penyembuhan pasien terutama pada kondisi infeksi/inflamasi akut, serta menurunkan angka morbiditas dan mortalitas melalui penambahan asupan makanan atau terapi suplementasi potensial pada penderita dengan kadar asam amino yang lebih rendahCoronavirus Disease 2019 (COVID-19) is an infection, caused by SARS CoV-2 virus infection, and had been reported that cause death in many countries. Patients with COVID-19 infection, could have amino acid alteration, both in essential and non essential, which are associated in inflammation and infectious processes. The main objective of this study, was to know the essential and non essential amino acid profile, and to determine the differences in severe and non severe COVID-19 patients. This cross sectional study was conducted at Dr. Cipto Mangunkusumo National Central Public Hospital and HGRC Laboratory, from January-December 2021. There were 128 subjects, consisted of 70 subjects (54.7%) in severe group and 58 subjects (45.3%) in non severe group. The amino acid profile in severe and non-severe COVID-19 patients, clinically were found slight different, with the effect size range d 0.08-0.48. There was no significant difference in all amino acid, between severe and non severe group ($p>0.05$). These findings were expected to contribute in recovery process especially in infection/acute inflammation state, decreased the morbidity and mortality, through additional intake and potential supplementation therapy in lower amino acid patients.