

Efek Hepatoprotektif Formula Enteral Hepatomocine *Enriched* BCAA dan β -Karoten Terhadap Kadar Enzim Aspartate Aminotransferase Tikus *Sprague-Dawley* dengan Induksi *Thioacetamide*

Alfi Zidha Fadhila¹, Ahmad Syauqy¹, Dewi Marfu'ah Kurniawati¹

ABSTRAK

Latar Belakang: Penyakit hati kronik didasari dari adanya inflamasi dan kerusakan pada sel hati. Hal tersebut menyebabkan adanya pelepasan AST ke dalam darah, sehingga kadarnya meningkat saat diukur. Formula enteral Hepatomocine memiliki kandungan BCAA, β -karoten, dan MCT yang berpotensi menurunkan kadar AST.

Tujuan: Menganalisis pengaruh pemberian formula enteral Hepatomocine terhadap kadar AST pada tikus *Sprague-Dawley* dengan induksi *thioacetamide*.

Metode: Penelitian ini merupakan penelitian *true experimental pre – post test with randomized control group design* menggunakan 24 tikus *Sprague Dawley* dewasa dalam 4 kelompok. Kelompok K-, P1, dan P2 diinduksi dengan *thioacetamide* 400 mg/kgBB. Kelompok P1 diberikan formula enteral Hepatomocine dan P2 diberikan formula enteral Hepatomocine *enriched* BCAA dan β -karoten, masing-masing dengan jumlah yang sama yaitu 5,04 g/200gBB dan selama 28 hari. Kadar AST ditentukan dengan menggunakan spektrofotometri. Analisis statistik menggunakan *Paired T-Test*, Uji *Oneway Anova* dengan uji lanjutan *Tukey*, dan Uji *Kruskal Wallis* dengan uji lanjutan *Mann Whitney*.

Hasil: Kadar AST pada kelompok P1 dan P2 memiliki perbedaan yang signifikan ($p < 0,5$) terhadap kelompok K- dan K+. Formula enteral Hepatomocine dapat menurunkan kadar AST pada kelompok P1 dan P2. Penurunan kadar AST yang paling signifikan terjadi pada kelompok yang diberikan formula enteral Hepatomocine *enriched* BCAA dan β -karoten.

Kesimpulan: Formula enteral Hepatomocine dapat menurunkan kadar AST pada tikus *Sprague Dawley* yang diinduksi dengan *thioacetamide*.

Kata Kunci: formula enteral, BCAA, β -karoten, penyakit hati, aspartate aminotransferase

¹Program Studi Ilmu Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang

The Hepatoprotective Effect of Hepatomocine Enteral Formula Enriched with BCAA and β -Carotene on Aspartate Aminotransferase Enzyme Levels in Thioacetamide-Induced Sprague-Dawley Rats

Alfi Zidha Fadhila¹, Ahmad Syaury¹, Dewi Marfu'ah Kurniawati¹

ABSTRACT

Background: Chronic liver disease starts with inflammation and damage to liver cells. A damaged state in the liver causes the release of AST into the blood, so serum levels of AST increase during the examination. Hepatomocine enteral formula contains MCT, BCAA dan β -Carotene which could reduce serum AST levels.

Objective: To examine the effect of Hepatomocine enteral formula on serum AST levels in thioacetamide-induced Sprague Dawley rats.

Methods: The true experimental study – pre-post test with randomized control group design used 24 adult Sprague Dawley rats in 4 groups. Groups K+, P1, and P2 were induced by Thioacetamide 400 mg/kgBW. Groups P1 was given Hepatomocine enteral formula and P2 was given Hepatomocine enteral formula enriched BCAA and β -Carotene, each with the same amount of 5.04 g/200gBB for 28 days. Serum levels of AST were determined using spectrophotometry. Statistical analysis had used Paired T-Test, Oneway Annova test with Tukey follow-up test, and Kruskal Wallis test with Mann Whitney follow-up test.

Results: Serum albumin, AST, and ALT levels in the P1 and P2 groups had significant differences ($p < 0.05$) against the K- and K+ groups. Hepatomocine enteral formula could reduce serum AST levels of P1 and P2 groups. The most significant improvement in serum AST levels occurred in the group given Hepatomocine enteral formula enriched with BCAA and β -Carotene.

Conclusion: Hepatomocine enteral formula could reduce serum AST levels in thioacetamide-induced Sprague Dawley rats.

Keywords: enteral formula, BCAA, β -carotene, liver disease, aspartate aminotransferase

¹Nutrition Study Program, Faculty of Medicine, Diponegoro University, Semarang