Pengaruh Ekstrak Tanaman Akar Kucing (Acalypha indica) dan Pegagan (Centella asiatica) terhadap Kadar GSH pada Otak Tikus Sprague Dawley Tua = The Effect Tanaman Akar Kucing (Acalypha indica) and Pegagan (Centella asiatica) on GSH level in Old Sprague Dawley's Brain

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Abstrak

Menurut The Free Radicals Theory of Aging akumulasi radikal bebas salah satu faktor penyebab penuaan yang dapat merusak sel-sel tubuh. Tubuh memiliki sistem antioksidan untuk menjaga homeostasis dan melindungi dari stres oksidatif. Namun, antioksidan endogen yang bekerja dianggap belum sepenuhnya dapat menangani masalah tersebut, sehingga diperlukan suplementasi antioksidan eksogen yang memanfaatkan sumber tanaman herbal di Indonesa. Tanaman Acalypha indica (AI) dan Centella asiatica (CA) diketahui memiliki berbagai kandungan senyawa, salah satunya adalah flavonoid. Pada berbagai penelitian, flavonoid memiliki aktivitas antioksidan yang diketahui dapat membantu melindungi tubuh dari stres oksidatif. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ekstrak AI dan CA terhadap kadar antioksidan Glutation (GSH) otak tikus Sprague Dawley tua. Studi eksperimental in vivo menggunakan otak tikus dari lima kelompok percobaan, yaitu tikus kontrol tua, tikus yang diberi AI (250 mg/kgBB), tikus yang diberi CA (300mg/kgBB), tikus yang diberi vitamin E (15 UI/kgBB), dan tikus kontrol muda. Pengukuran kadar GSH menggunakan metode Ellman. Kadar GSH otak pada kelompok tikus yang diberi AI lebih tinggi secara bermakna dibandingkan dengan tikus yang diberi CA (p= 0,001), Vitamin E (p=,006), dan tikus kontrol muda (p= 0,003). Kadar GSH pada kelompok tikus kontrol tua lebih tinggi secara bermakna dibandingkan dengan tikus yang diberi CA, Vitamin E, dan tikus kontrol muda. Hasil tersebut menunjukkan bahwa kedua tanaman memiliki kadar antioksidan dan berpotensi sebagai suplemen bagi tubuh.

.....According to The Free Radical Theory of Aging, accumulation of free radicals lead to aging which can damage body cells. Our body has antioxidant system to maintain homeostasis and protect from oxidative stress. However, the endogenous antioxidant cant fully solve the problem, thus our body needs exogenous antioxidant supplement that can utilize from herbal plants in Indonesia. Acalypha indica (AI) and Centella asiatica (CA) is a plant known having several chemical compounds which one of them is flavonoid. In many studies, flavonoid has antioxidant activity that can help protect body from oxidative stress. This study has objective to discover the effect of AI and CAs extract to antioxidant GSH (glutathione) level in old Sprague Dawley rats brains.This study was conducted as in vivo experimental research using rats brains from 5 experimental groups, which are old control rats, rats that were given AI (250 mg/kgBW), rats that were given CA (300 mg/kgBW), rats that were given vitamin E (15 UI/kgBW), and young control rats. Measurement of GSH lever was done by using Ellman method. GSH level in group of rats that were given AI was significantly higher compared to brain GSH level in group of rats that were given CA (p=0.001), vitamin E (p=0.006), and young control rats (p=0.003). GSH level in old control rats group was significantly higher compared to group of rats that were given CA, vitamin E, and young control rats. This result show that both plants have antioxidant activity and potentially used as supplementation for body.