EFFECT OF Cosmos Caudatus LEAF ETHANOL EXTRACT ON SERUM iNOS LEVEL IN RATS WITH LIVER DISORDER

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ABSTRACT

Background: High amounts of nitric oxide produced by Inducible Nitric Oxide Synthase (iNOS) can have beneficial microbicidal, antiviral, antiparasital, and antitumoral actions. However, aberrant iNOS induction may have detrimental effect in the pathophysiology of diseases such as asthma, arthritis, multiple sclerosis, colitis, psoriasis, neurodegenerative diseases, tumor development, or septic shock. Kenikir leaf (*Cosmos caudatus*) is a natural and traditional medicine believed to have a hepatoprotective effect. This study aimed to determine the efficacy of *Cosmos caudatus* in reducing iNOS in rats.
Subjects and Method: This was a randomized controlled trial conducted from July to September 2022. A sample of 30 male white rats *(Rattus norvegicus)* were randomized into 5 groups: (1) Normal control received no treatment; (2) Negative control induced by cisplatin 5 mg/kgBW/day; (3) Low dose treatment induced by cisplatin 5 mg/kgBW + ethanol extract of kenikir leaves (*Cosmos caudatus)* 50 mg/kgBW; (4) Moderate dose treatment induced cisplatin 5 mg/kgBW + *Cosmos caudatus* 100 mg/kgBW; (5) High dose treatment induced by cisplatin 5 mg/kgBW + *Cosmos caudatus* 300 mg/kgBW. The data were collected by the ELISA kit, and analyzed by One-Way ANOVA.
Results: Cisplatin was able to increase the iNOS level. The iNOS level in the negative control (Mean= 23.71; SD=7.56) was higher than the normal control (Mean= 18.41; SD=3.82), and it was statistically significant (p= 0.023). The Mean iNOS levels in the low dose treatment (Mean= 24.52; SD= 3.85), the moderate dose treatment (Mean= 22.57; SD= 4.86), and the high dose treatment (Mean= 21.70; SD= 24.68), were different from the negative control (Mean= 23.71; SD=7.56), but it was statistically non-significant (p= 0.425).
Conclusion: Moderate and high doses of *Cosmos caudatus* can reduce iNOS level in rat, but they are statistically non-significant. Low dose of *Cosmos caudatus* increases iNOS level, but it is neither statistically significant.

Keywords: *Cosmos caudatus*, iNOS, *Rattus norvegicus*.

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