EFFECT OF CHAYOTE (Sechium Edule Jacq. Swartz) EXTRACT ON LEVEL OF INTERLEUKIN-8 IN WISTAR RATS WITH ASPIRIN-INDUCED GASTRITIS

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ABSTRACT

Background: Recent studies showed that Interleukin-8 (IL-8), activated cytokine immune response which plays an important role in the development of acute and chronic gastritis. Harmless anti-inflammatory therapeutic alternatives have been proposed, for example, the consumption of Sechium Edule Jacq. Swartz (chayote). Antioxidant (flavonoid) and cell regeneration (alkaloid) agents were found in chayote. This study aimed to determine the effect of chayote Sechium Edule Jacq. Swartz extracts on the level of IL-8 in Wistar rats with aspirin-induced gastritis.

Subjects and Method: This was a randomized controlled trial (RCT) conducted at the laboratory of Mathematics and Natural Science, Universitas Sumatra Utara from January to February 2020. A total of 35 male Wistar rats was selected for this study and randomly allocated into 7 groups: (1) Negative control; (2) Positive control; (3) 100 mg/ kg BW chayote ethanol extract; (4) 200 mg/kg BW chayote ethanol extract; (5) 100 mg/ kg BW chayote ethyl acetate fraction; (6) 200 mg/kg BW chayote ethyl acetate fraction; and (7) 20 mg omeprazole. The rats in positive control and treatment groups were induced with aspirin (200mg/kg BW). The negative control group received no intervention. The dependent variable was level of IL-8 measured by ELISA. The independent variables were treatment status. The data were analyzed by One Way Anova and post hoc test.

Results: The mean differences of IL-8 level were not statistically significant between study groups (p= 0.327). Mean of IL-8 level was higher in positive control group (Mean= 160.80; SD= 6.90) than in negative control group (Mean= 141.20; SD= 10.98). The lowest IL-8 level was in 100mg/ kg BW chayote ethanol extract group (Mean= 149.94; SD= 40.4), followed by 200mg/kg BW (Mean= 152.4; SD= 30.73) and 100mg/ kg BW (Mean= 164.60; SD= 25.04) chayote ethyl acetate fraction groups, 20 mg omeprazole group (Mean= 170.60; SD= 21.58), and 200 mg/ kg BW chayote ethanol extract group (Mean= 176.80; SD= 10.98).

Conclusion: The low dose (100mg/ kg BW) chayote ethanol extract has the most potential antiinflammation effect on in vitro gastritis with the lowest IL-8 level of all doses of chayote ethanol extract, chayote ethyl acetate fraction, and omeprazole.

Keywords: antiinflammation, IL-8, chayote ethanol extract, ethyl acetate fraction, omeprazole, aspirin induced gastritis

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