PENGARUH PEMBERIAN EKSTRAK CIPLUKAN (Physalis angulata L.) TERHADAP JUMLAH SEL FIBROBLAS PADA *IMIQUIMOD-INDUCED PSORIASIS MICE MODEL*

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ABSTRAK

Latar Belakang: Imiquimod menginduksi terjadinya aktivasi sel Th17 dan sel dendritik yang berperan dalam terjadinya psoriasis.Ekstrak ciplukan (*Physalis angulata* L.) mengandung senyawa steroid, flavonoid alkaloid, saponin seperti Physalin B,Physalin F,Physalin G yang memiliki aktivitas antiinflamasi dalam patofisiologi psoriasis.

Tujuan: Tujuan penelitian ini adalah untuk mengetahui pengaruh pemberian ekstrak ciplukan (*Physalis angulata L.*) terhadap jumlah sel fibroblas pada *imiquimod-induced psoriasis mice model.*

Metode Penelitian: Penelitian ini merupakan penelitian eksperimental dengan *post test only with control group design*. Tiga puluh lima ekor mencit betina dibagi dalam 7 kelompok. Kelompok A: kontrol negatif (n=5), kelompok B: kontrol positif (n=5), kelompok C (n=4), kelompok yang diinduksi imiquimod dan diberikan ekstrak ciplukan 400 mg/kgBB selama 7 hari, kelompok D (n=5), kelompok yang diinduksi imiquimod dan diberikan ekstrak ciplukan 800 mg/kgBB selama 7 hari , kelompok E (n=5) kelompok yang diinduksi imiquimod dan diberikan ekstrak ciplukan 1.200 mg/kgBB selama 7 hari, kelompok F (n=5) kelompok yang diinduksi imiquimod dan diberikan methotreksat 1 mg/kgBB selama 7 hari, dan kelompok G (n=5) kelompok yang diinduksi imiquimod dan diberikan kombinasi ekstrak ciplukan 1.200 mg/kgBB dan methotreksat 1mg/kgBB selama 7 hari . Jumlah sel fibroblas dihitung pada hari ke lima belas dengan mengambil sampel kulit mencit dan dilakukan pembuatan preparat histologi kemudian dihitung secara manual menggunakan mikroskop.

Hasil: Rerata jumlah sel fibroblas pada kelompok A,B,C,D,E,F,dan G masing-masing adalah 21,6±2,3; 39,2±5,5; 30,6±1,3; 24,0±2,8; 24,8± 2,9; 28,4±3,0;28,2±3,2 . Hasil uji *One Way* ANOVA menunjukkan nilai p=0,000(p<0,05).

Kesimpulan: Terdapat perbedaan bermakna jumlah fibroblas dermis mencit pada kelompok kontrol dengan kelompok yang diberi ekstrak ciplukan 400mg/kgBB, 800 mg/kgBB, 1.200 mg/kgBB, methotreksat 1mg/kgBB, dan kombinasi ciplukan 1.200 mg/kgBB & methotreksat 1mg/kgBB.

Kata kunci: ekstrak ciplukan, fibroblas ,methotreksat, *Physalis angulata*

THE EFFECT OF CIPLUKAN EXTRACT (Physalis angulata L.) TO THE NUMBER OF FIBROBLAST CELLS IN IMIQUIMOD-INDUCED PSORIASIS MICE MODEL

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ABSTRACT

Background: *Imiquimod induces the activation of Th17 cells and dendritic cells which play a role in psoriasis. Ciplukan (Physalis angulata L.) extracts has steroid compounds, alkaloid flavonoids, saponins such as Physalin B, Physalin F, Physalin G which have anti-inflammatory activity in the pathophysiology of psoriasis.*
Purpose: *The aim of this study was to determine the effect of ciplukan extract (Physalis angulata L.) to the number of fibroblasts in imiquimod-induced psoriasis mice model.*
Research Method: *This study is an experimental study which a post test only with control group design. Thirty five female mices were divided into 7 groups. Group A: negative control (n = 5), group B: positive control (n = 5), group C (n = 4), the group induced with imiquimod and was giving with ciplukan 400 mg / kgBW extract for 7 days, group D (n = 5), the group induced with imiquimod and was giving with ciplukan 800 mg / kgBB extract for 7 days, group E (n = 5) the group induced with imiquimod and was giving with ciplukan extract 1,200 mg / kgBB for 7 days, group F (n = 5) the group induced with imiquimod and was giving with methotrexate 1 mg / kgBB for 7 days, and group G (n = 5) the group that was induced by imiquimod and was giving with a cocktaile combination of ciplukan extract 1,200 mg / kgBB and methotrexate 1 mg / kgBB for 7 days. The number of fibroblast cells were counted on the fifteenth day by having takes mice skin samples and having made histological preparations. The next step was having counted all of them manually used a microscope.*
Results: *The mean number of fibroblast cells in groups A, B, C, D, E, F, and G are 21.6 ± 2.3; 39.2 ± 5.5; 30.6 ± 1.3; 24.0 ± 2.8; 24.8 ± 2.9; 28.4 ± 3.0; 28.2 ± 3.2. The results of One Way ANOVA shows the value of p = 0.000 (p <0.05).*
Conclusion: *There are significant differences on the number of dermal fibroblasts in the control group and the groups that had given with ciplukan extract 400mg / kgBW, 800mg / kgBW, 1,200mg / kgBW, methotrexate 1mg / kgBW, and a combination of ciplukan 1,200mg / kgBW & methotrexate 1mg / kgBW.*

Key words: ciplukan extract, fibroblast, methotrexate , *Physalis angulata*