The extract of "shoe flower" (Hibiscus rosea sinensis L) leaves inhibit the spermatogenesis of ddy strain mice

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Abstrak

Penelitian ini dilakukan dalam rangka mencari bahan kontrasepsi pria yang bersumber dari tanaman, khususnya daun kembang sepatu (Hibiscus rosea sinensis L). Penelitian ini bertujuan untuk melihat apakah ekstrak daun kembang sepatu (Hibiscus rosea sinensis L) dapat menghambat proses spermatogenesis mencit strain ddy. Penelitian ini dilakukan pada tiga kelompok yang masing-masing terdiri dari delapan ekor mencit. Kelompok kontrol diberikan karboksimetil selulose (CMC) 1% dalam 0,5 ml aquabides, kelompok perlakuan I diberikan ekstrak daun kembang sepatu (Hibiscus rosea sinensis L), dosis 700 mg/kg BB ditambahkan CMC 1% dalam 0,5 ml aquabides dan kelompok perlakuan kedua diberikan ekstrak daun kembang sepatu (Hibiscus rosea sinensis L), dosis 800 mg/kg BB ditambahkan CMC 1% dalam 0,5 ml aquabides. Perlakuan ini diberikan selama 40 hari sesuai dengan siklus spermatogenesis. Setelah itu dilakukan pembuatan preparat histologis testis mencit, diikuti pengamatan preparat testis dengan mikroskop cahaya pembesaran 100x dan 400x untuk menghitung sel-sel spermatogenik. Terakhir, dilakukan pemotretan tubulus seminiferus ketiga kelompok yang terdiri dari sel-sel spermatogenik melalui mikroskop cahaya dengan pembesaran 100x dan 400x dengan memakai kamera Fuji dan film Fuji, ASA 200. Hasil menunjukkan perbedaan yang sangat bermakna antara kelompok kontrol dan kelompok perlakuan I dan II, yaitu terjadi penurunan jumlah sel-sel spermatogonia, spermatosit primer pakhiten dan spermatid pada kelompok perlakuan (P<0,01). Dari hasil penelitian ini, dapat disimpulkan bahwa ekstrak daun kembang sepatu (Hibiscus rosea sinensis L) menghambat proses spermatogenesis. Hasil penelitian ini diharapkan dapat dikembangkan sebagai bahan kontrasepsi pria.

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Abstract

This study was conducted in order to develop male contraception from plants, namely the "shoe flower" (Hibiscus rosea sinensis L) leaves. The objective of this study was to find out whether the extract of "shoe flower" leaves could inhibit the process of spermatogenesis on ddy strain mice. This research was performed in 3 groups and each group consisted of 8 mice. The control group was given 1% carboxy methyl cellulose (CMC) in 0.5 ml aquabides. The treatment group I was given the extract of "shoe flower" leaves 700 mg/kg BW and 1% CMC in 0.5 ml aquabides, and the second treatment group was given the extract of "shoe flower" leaves, 800 mg/kgBW and 1% CMC in 0.5 ml aquabides. The treatment were given for 40 days in accordance with the spermatogenesis cycle. Then, the production of histological slides of the mice testis and the observation of the slides using light microscope with magnification of 100x and 400x were done. Further, counting of the spermatogenic cells was done. At last the pictures of seminiferous tubulus cross-section of the three groups which consisted of spermatogenic cells were taken through light microscope with magnification of 100x and 400x using Fuji camera and Fuji film, 200 ASA. The results showed significant differences between the control, treatment I, and treament II group. There were decreased numbers of spermatogonia, pachyten primary spermatocytes and spermatids in treatment groups (P<0.01). The result of

this study showed that the extract of "shoe flower" (Hibiscus rosea sinensis L) leaves, inhibited the process of spermatogenesis of ddy strain mice. It is hoped that the result of this study can be developed into a male contraception.