ABSTRAK

PENGARUH PEMBERIAN EKSTRAK ETANOL DAUN JAMBU BIJI TERHADAP REGULASI INFLAMASI PADA MENCIT YANG DIINDUKSI LIPOPOLISAKARIDA

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Pendahuluan: Daun jambu biji diketahui dapat menurunkan demam pada inflamasi (pada etnis tertentu di Indonesia), namun belum ditemukan adanya penelitian yang membuktikan keefektifitasnya dalam menurunkan demam. Tujuan penelitian ini adalah untuk menganalisis pengaruh ekstrak etanol daun jambu biji pada mencit inflamasi yang diinduksi Lipopolisakarida (LPS). **Metode:** Penelitian ini menggunakan *true experimental* dengan rancangan *post-test only control group design.* Besar sampel berjumlah 36 ekor mencit sesuai kriteria inklusi yang dirawat di Ruang Pemeliharaan Hewan Coba Fakultas Kedokteran Hewan Universitas Airlangga. Pada Kelompok 1 tidak diinduksi LPS dan tidak diberikan perlakuan, kelompok 2 diinduksi LPS dan diberikan CMC Na 0,5%, kelompok 3 diinduksi LPS dan diberikan ekstrak etanol daun jambu biji 397,6 mg/kgBB serta kelompok 4 diinduksi LPS dan diberikan ekstrak etanol daun jambu biji 796,5 mg/kgBB. Variabel yang pertama kali diukur adalah perubahan temperatur selama 24 jam, lalu dilanjutkan pengukuran PGE_2 dan IL-10. **Hasil:** terdapat perbedaan perubahan temperatur ($p<0,05$), namun tidak terdapat perbedaan penurunan PGE_2 dan peningkatan IL-10 ($p>0,05$) yang dianalisis menggunakan uji *One Way Anova*. **Diskusi:** Ekstrak etanol daun jambu biji dapat menghambat pelepasan asam arakidonat dan sitokin pro-inflamasi sehingga dapat menurunkan demam. Sedangkan pada PGE_2 dan IL-10 belum mengalami perubahan secara efektif. Temuan baru didapatkan bahwa CMC Na dapat meregulasi suhu.

Kata kunci: ekstrak etanol, daun jambu biji, regulasi inflamasi, lipopolisakarida.

ABSTRACT

THE INFLUENCE OF GIVING ETHANOL EXTRACT OF GUAJAVA LEAVES TO INFLAMMATION REGULATION IN MICE INDUCED BY LIPOPOLYSACCHARIDE

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Introduction: Guava leaves is used to reduce fever in inflammation (by some ethnic groups in Indonesia), yet no study investigates its effectiveness in reducing fever. The purpose of this study was to analyse the effect of influence of ethanol extract of guava leaves on mice induced by Lipopolysaccharide (LPS). **Method:** This study used true experimental with post-test only control group-design. The sample amounted to 36 mice according to the inclusion criteria treated in the Ruang pemeliharaan hewan Coba, the Faculty of Veterinary Medicine, Airlangga University. In first group was not induced by LPS and not given treatment, second group was induced by LPS and given CMC Na 0.5% at a dose of 0.5 g/kgWB, the third group was induced by LPS and given ethanol extract of guava leaves 397.6 mg/kgBW and the fourth group was induced by LPS and given ethanol extract of guava leaves at a dose of 796.5 mg/kgBW. The variable that was first measured was a change in temperature for 24 hours, then continued measurement of PGE_2 and IL-10. **Results:** There were differences in temperature changes (p<0,05), but there were no differences in PGE_2 reduction and IL-10 IL-10 increase (p>0,05) which were analysed by *One Way Anova* test. **Discussion:** The ethanol extract of guava leaves can inhibit the release of arachidonic acid and pro-inflammatory cytokines so as to reduce fever. Whereas PGE_2 and IL-10 have not changed effectively. New findings have found that CMC Na can regulate temperature.

Keywords: extract of ethanol, guava leaves, inflammation regulation, lipopolysaccharide.