

ABSTRACT

The healing phase of thermal burns naturally begins with the inflammatory phase, followed with the last phase of proliferation and remodeling phase. Leaf of frangipani (*Plumeria acuminata Ait*) contains of saponins, flavonoids, polyphenols, and alkaloids which have antiinflammatory and antibacterial. This study aimed to determine the effect of leaf extract cream *P. acuminata* against thermal burns healing.

A total of 30 female white rats (*Rattus norvegicus*) Wistar were divided into 6 groups: group without treatment, Bioplacenton ® group, Cream Base group, cream ethanol extract of *P. acuminata* group (EPA) with levels of 2,5%, 5% and 10%. Rats induced thermal injury which diameter of 20 mm. Test material is applied and burns diameter was measured every day until cured. Average - the average recovery time was analyzed by Kruskal Wallis.

Time healed in group without treatment, Bioplacenton ® group, Cream Base group, group of EPA cream 2,5%, 5% and 10% respectively were 41,25 days, 40,2 days, 39,6 days, 38,4 days, 39,6 days and 40,2 days. In the Kruskal Wallis test p value of 0,310 obtained ($p > 0,05$). Giving EPA cream 2,5%, 5% and 10% speed up recovery time burns when compared with the group without treatment, although statistically was not significant.

Keywords: ethanol extract, burn, *Plumeria acuminata*

ABSTRAK

Fase penyembuhan luka bakar termal secara alami diawali dengan fase inflamasi, diikuti fase proliferasi dan yang terakhir fase *remodeling*. Daun kamboja (*P. acuminata Ait*) mengandung saponin, flavonoida, polifenol, dan alkaloida yang mempunyai efek antiinflamasi dan antibakteri. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian krim ekstrak daun *P. acuminata* terhadap penyembuhan luka bakar termal.

Sebanyak 30 ekor tikus putih betina (*Rattus norvegicus*) Wistar dibagi menjadi 6 kelompok yaitu kelompok tanpa perlakuan, kelompok Bioplacenton[®], kelompok *Cream Base*, kelompok krim ekstrak etanol *P. acuminata* (EPA) dengan kadar 2,5%, 5% dan 10%. Tikus diinduksi luka termal berdiameter 20 mm. Bahan uji dioleskan dan diameter luka bakar diukur setiap hari hingga sembuh. Rata – rata waktu sembuh dianalisis dengan *Kruskal Wallis*.

Waktu sembuh kelompok tanpa perlakuan, Bioplacenton[®], *Cream Base*, krim EPA 2,5%, 5% dan 10% berturut-turut adalah 41,25 hari, 40,2 hari, 39,6 hari, 38,4 hari, 39,6 hari dan 40,2 hari. Pada uji *Kruskal Wallis* diperoleh nilai p sebesar 0,310 ($p > 0,05$). Pemberian krim EPA 2,5%, 5% dan 10% mempercepat waktu sembuh luka bakar jika dibandingkan dengan kelompok tanpa perlakuan, meskipun secara statistik tidak signifikan.

Kata kunci: ekstrak etanol, luka bakar, *Plumeria acuminata*,