

**JURUSAN KEDOKTERAN GIGI
FAKULTAS KEDOKTERAN
UNIVERSITAS JENDERAL SOEDIRMAN
PURWOKERTO
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ABSTRAK

BAMBANG BUDI KUNCORO

**PENGARUH PEMBERIAN GEL EKSTRAK KULIT JENGKOL TERHADAP
PROSES PENYEMBUHAN LUKA PASCA PENCABUTAN GIGI TIKUS
*SPRAGUE DAWLEY***

(Pengamatan Histopatologi terhadap Ketebalan Epitel dan Jumlah Fibroblas)

Pencabutan gigi merupakan tindakan yang dapat menimbulkan luka pada jaringan lunak maupun jaringan keras. Kulit jengkol mengandung senyawa kimia seperti tanin, flavonoid, saponin, dan triterpenoid yang dapat merangsang mediator penyembuhan luka seperti *Epidermal Growth Factor* (EGF), *basic Fibroblast Growth Factor* (bFGF), dan *Transforming Growth Factor- β* (TGF- β). Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi gel ekstrak kulit jengkol terhadap ketebalan epitel dan jumlah fibroblas dalam proses penyembuhan luka pascapencabutan gigi. Penelitian ini merupakan penelitian eksperimental laboratoris dengan *posttest-only control group design* menggunakan 48 ekor tikus jantan galur Wistar yang dibagi menjadi 12 kelompok yaitu kelompok K1 (kontrol negatif), K2 (kontrol positif), P1 (perlakuan gel ekstrak kulit jengkol 10%), P2 (perlakuan gel ekstrak kulit jengkol 20%) dan dibedakan lama pemberian aplikasi gel selama 3, 5 dan 7 hari pada masing-masing kelompok. Setelah itu jaringan soket gingiva gigi dibuat preparat histologi. Pengukuran ketebalan epitel dan penghitungan jumlah fibroblas dilakukan dengan bantuan *software Image Raster*. Perhitungan jumlah fibroblas dilakukan pada 5 lapang pandang yang mewakili bagian servikal, bagian tengah, dan bagian apikal. Jaringan epitel pada penelitian ini tidak dapat ditemukan karena ketidak hati-hatian operator. Uji *Anova* menunjukkan terdapat perbedaan jumlah fibroblas antar kelompok yang bermakna ($p > 0,05$). Uji *post hoc* LSD pada penelitian ini menunjukkan ekstrak kulit jengkol konsentrasi 10% dan 20% efektif untuk meningkatkan jumlah fibroblas. Penelitian ini membuktikan gel ekstrak kulit jengkol konsentrasi 10% dan 20% efektif dalam mempercepat proses penyembuhan luka pascapencabutan gigi.

Kata Kunci : *Penyembuhan luka, pascapencabutan gigi, gel ekstrak kulit jengkol, ketebalan epitel, jumlah fibroblas.*

Kepustakaan : 32 (1997-2017)

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ABSTRACT

BAMBANG BUDI KUNCORO

**THE EFFECT OF JENGKOL SKIN EXTRACT GEL APPLICATION IN
WOUND HEALING PROCESS AFTER TOOTH EXTRACTION OF SPRAGUE
DAWLEY RATS**

(Histopathological Observation of Epithelial Thickness and Number of Fibroblast)

Tooth extraction is dental procedure that can cause injury to soft or hard tissue. Jengkol skin contains chemical compounds such as tannins, flavonoids, saponins, and triterpenoids which can stimulate wound healing mediators such as Epidermal Growth Factor (EGF), basic Fibroblast Growth Factor (bFGF), dan Transforming Growth Factor- β (TGF- β). The purpose of this study was to determine the effect of the application of jengkol skin extract gel on epithelial thickness and the number of fibroblasts in the process of wound healing after tooth extraction. This study was an experimental laboratory with posttest-only control group design using 48 Sprague Dawley strain male rats which were divided into 12 groups namely K1 group (negative control), K2 (positive control), P1 (10% jengkol skin extract gel treatment), P2 (20% jengkol skin extract gel treatment) for 3 days different of treatments 3, 5, and 7 days on the gingival socket. After that, the tooth gingival socket tissue was taken for histological examination. The measurement of epithelial thickness and number of fibroblast were carried out with the help of Image Raster software. Calculation of the number of fibroblasts was carried out in 5 visual fields representing the cervical, middle, and apical parts. The epithelial tissue examination in this study could not be performed due to operator mistake. One way Anova test showed that there were significant differences in the number of fibroblasts between groups ($p > 0.05$). The post hoc LSD test in this study showed that jengkol skin extract concentrations of 10% and 20% were equally effective for increasing the number of fibroblasts. This study proves that jengkol skin extract gel with 10% and 20% concentration effective to improve the wound healing process after tooth extraction.

Keywords : Wound healing, post tooth extraction, jengkol skin extract gel, epithelial thickness, number of fibroblasts.

Bibliography : 32 (1997-2017)