

ABSTRAK

PENGARUH PEMBERIAN TOPIKAL MADU HUTAN PAMEUNGPEUK LEBAH *Apis dorsata* TERHADAP KADAR bFGF PADA MODEL LUKA PASCA PALATOPLASTI *IN VIVO*

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Pembedahan palatoplasti merupakan prosedur untuk memperbaiki celah langit-langit. Proses penyembuhan luka pasca palatoplasti akan mengalami fase proliferasi yang melibatkan proses angiogenesis. Proses angiogenesis dipengaruhi oleh faktor angiogenik, salah satunya *basic Fibroblast Growth Factor* (bFGF) yang dihasilkan oleh makrofag dan sel endotel untuk meningkatkan proliferasi sel fibroblas dan sel endotel. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian topikal madu Hutan Pameungpeuk terhadap peningkatan kadar bFGF pada model luka pasca palatoplasti tikus putih (*Rattus norvegicus*) galur *Sprague-Dawley*. Penelitian ini merupakan penelitian eksperimental laboratoris dengan rancangan penelitian *posttest-only control group design*. Sampel penelitian menggunakan model luka palatoplasti pada tikus putih (*Rattus norvegicus*) galur *Sprague-Dawley* menggunakan *punch biopsy* dengan lebar 3mm. Madu Hutan Pameungpeuk diaplikasikan secara topikal sebagai kelompok perlakuan, *Alocclair gel* sebagai kontrol positif dan untuk kontrol negatif menggunakan akuades selama 4 hari. Kadar bFGF jaringan mukosa palatum pasca perlakuan diuji menggunakan *sandwich ELISA*. Hasil pengujian pada pemberian madu Hutan Pameungpeuk memiliki kadar bFGF lebih tinggi (15,13 ng/L) dibandingkan kontrol positif (11,66 ng/L) dan kontrol negatif (7,73 ng/L). Uji statistik menggunakan *Kruskal-Wallis* menunjukkan hasil sangat signifikan ($p < 0,001$) dan hasil *Post-hoc Mann-Whitney* didapatkan perbedaan yang sangat signifikan antar kelompok ($p < 0,001$). Simpulan dari penelitian menunjukkan bahwa pemberian secara topikal madu Hutan Pameungpeuk dapat meningkatkan kadar bFGF pada model luka pasca palatoplasti tikus putih (*Rattus norvegicus*) galur *Sprague-Dawley*.

Kata Kunci: Angiogenesis, *basic Fibroblast Growth Factor*, Flavonoid, Madu Hutan Pameungpeuk, Palatoplasti

Kepustakaan: 109 (1995-2020)

ABSTRACT

EFFECT OF TOPICAL APPLICATION OF PAMEUNGPEUK FOREST HONEY APIS DORSATA BEES ON bFGF IN THE POST-PALATOPLASTY WOUND MODEL IN VIVO

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Palatoplasty surgery is a procedure to repair the cleft palate. The post-palatoplasty wound healing process will undergo proliferation phase which involves the angiogenesis process. The angiogenesis process is influenced by angiogenic factors, one of them is the basic Fibroblast Growth Factor (bFGF) which is produced by macrophages and endothelial cells to increase the proliferation of fibroblast and endothelial cells. This research aims to determine the effect of topical application of Pameungpeuk Forest honey on increasing levels of bFGF in post-palatoplasty wound models of Sprague dawley strain rats. This research was a laboratory experimental study with a posttest-only control group design. The research sample used a palatoplasty wound model in Sprague Dawley strain rats using punch biopsy with a width of 3mm. Pameungpeuk Forest Honey was applied topically as a treatment group, Aloclair gel as a positive control and for negative control used distilled water for 4 days. Post-treatment levels of bFGF in the palate mucosa were tested using sandwich ELISA. The test results on the provision of Pameungpeuk Forest honey had significantly higher bFGF levels (15.13 ng/L) than the positive control (11.66 ng/L) and the negative control (7.73 ng/L). The statistical test using Kruskal-Wallis showed very significant results ($p < 0,001$) and the Post-hoc Mann-Whitney results showed a very significant difference between groups ($p < 0,001$). The conclusions of this research indicate that topical application of Pameungpeuk Forest honey can increase bFGF levels in the post-palatoplasty wound model of Sprague dawley strain rats.

Keywords: Angiogenesis, basic Fibroblast Growth Factor, Flavonoid, Pameungpeuk Forest Honey, Palatoplasty

Literature: 109 (1995-2020)