INTISARI

Latar Belakang: Luka menyebabkan gangguan anatomi dan fungsional. Tanda penyembuhan luka yaitu kontraksi luka, epitelisasi, dan kolagenisasi. Salah satu terapi mempercepat penyembuhan luka adalah madu. Madu Tualang memiliki keasaman dan senyawa fenolik yang lebih tinggi. Belum ada penelitian gel madu Tualang untuk penyembuhan luka.

Tujuan: Mengetahui pengaruh pemberian berbagai kadar gel madu Tualang secara topikal pada penyembuhan luka akut secara *in vivo* pada kulit mencit.

Metode: Untuk melihat efektivitas madu Tualang, madu Tualang dibuat dalam 3 konsentrasi yaitu 25%, 50%, dan 75% dalam bentuk gel. Klindamisin gel digunakan sebagai kontrol positif dan basis gel sebagai kontrol negatif. Hewan coba menggunakan mencit galur Swiss, berat badan 20-30 gram, dan berusia 8-10 minggu sebanyak 6 ekor untuk tiap kelompok perlakuan. Luka dibuat dengan biopsi plong 6 mm pada punggung mencit. Pengukuran tingkat kesembuhan berdasarkan kontraksi luka, epitelisasi, dan kolagenisasi. Kontraksi luka diukur pada hari ke 3, 6, 9, dan 11. Mencit diterminasi dan dibiopsi dengan biopsi plong 8 mm, kemudian diukur epitelisasi dan kolagenisasi pada hari ke 11. Penghitungan hasil menggunakan program imageJ® 1.48.

Hasil: Kelompok gel madu Tualang 75% berbeda bermakna dibandingkan basis gel dalam mempercepat kontraksi luka pada hari ke 3 (p=0,027), hari ke 6 (p=0,015), dan hari ke 11 (p=0,042). Epitelisasi pada kelompok gel madu Tualang 75% berbeda bermakna dibandingkan klindamisin gel (p=0,04), basis gel (p=0,002), dan gel madu Tualang 25% (p=0,017). Peningkatan kolagenisasi pada kelompok gel madu Tualang 75% berbeda bermakna dibandingkan klindamisin gel (p=0,015), basis gel (p=0,001), gel madu Tualang 25% (p=0,043), dan gel madu Tualang 50% (p=0,025) dalam penyembuhan luka akut secara *in vivo* pada kulit mencit.

Kesimpulan: Pemberian gel madu Tualang lebih baik dibandingkan klindamisin gel dan basis gel, namun gel madu Tualang 75% lebih baik dalam meningkatkan kontraksi luka, epitelisasi, dan kolagenisasi pada penyembuhan luka secara *in vivo* pada kulit mencit dibandingkan sediaan lainnya.

Kata Kunci: gel madu Tualang, penyembuhan luka, kontraksi luka, epitelisasi, kolagenisasi

ABSTRACT

Background: Wounds cause anatomic and functional interference. Signs of wound healing include wound contraction, epithelialization, and collagenization. One of the therapies to accelerate wound healing is honey. Tualang honey has higher acidity and phenolic compounds. There has been no research on Tualang honey gel for wound healing.

Objective: To determine the in vivo wound healing effect of topical application of Tualang honey gel at different levels on mice skin.

Methods: To observe the effectiveness of Tualang honey, Tualang honey is made in 25%, 50% and 75% concentrations in gel form. Clindamycin gel was used as positive control and gel base as negative control. The experimental animals used Swiss strain mice, body weight 20-30 grams, and aged 8-10 weeks as many as 6 mice for each treatment group. The wound was made with a 6 mm biopsy of the back of the mice. Measurement of the rate of healing based on wound contraction, epithelialization, and collagenization. Wound contractions were measured on days 3, 6, 9, and 11. Mice were terminated and biopsy with an 8 mm biopsy, then epithelialization and collagenization were measured on day 11. Measurement of the results using the imageJ® 1.48 program.

Result: 75% Tualang honey gel group was different significantly compared to gel base in accelerating wound contraction on day 3 (p=0.027), day 6 (p=0.015), and day 11 (p=0.042). Epithelialization in the 75% Tualang honey gel group was different significantly compared to clindamycin gel (p=0.04), gel base (p=0.002), and Tualang honey gel 25% (p=0.017). The increase in collagenization in 75% Tualang honey gel group was different significantly compared to clindamycin gel (p=0.015), gel base (p=0.001), Tualang honey gel 25% (p=0.043), and Tualang honey gel 50% (p=0.025) in acute wound healing in vivo on mice skin.

Conclusion: Topical application of Tualang honey gel was better than clindamycin gel and gel base, however Tualang honey gel 75% was better in increasing wound contraction, epithelialization, and collagenization in vivo wound healing on mice skin compared to other groups.

Keywords: Tualang honey gel, wound healing, wound contraction, epithelialization, collagenization