

ABSTRAK

Luka terbuka merupakan kondisi kerusakan jaringan yang dapat terjadi pada kulit. Terjadinya luka terbuka menyebabkan tubuh melakukan respon regenerasi yang disebut dengan penyembuhan luka. Salah satu senyawa yang memiliki efek percepatan penutupan luka adalah kuersetin. Pemberian gel dengan zat aktif kuersetin pada luka diharapkan dapat mengurangi respon inflamasi dan meningkatkan kepadatan fibroblast. Tujuan dari penelitian ini adalah untuk mengevaluasi aktivitas sediaan gel kuersetin dalam mempercepat penutupan luka terbuka menggunakan metode *biopsy punch* pada tikus jantan galur wistar.

Jenis penelitian ini adalah penelitian eksperimental murni dengan rancangan penelitian acak lengkap pola searah. Setelah dilakukan *biopsy punch*, masing-masing kategori kontrol dan perlakuan diberikan pengolesan berbeda selama 11 hari kecuali kategori tanpa perlakuan. Kontrol negatif diberikan perlakuan pengolesan basis, kontrol positif diberikan perlakuan pengolesan *Lukajel*®, perlakuan gel 1 diberikan pengolesan gel kuersetin konsentrasi 0,05%, perlakuan gel 2 diberikan pengolesan gel kuersetin 0,1%, perlakuan gel 3 diberikan pengolesan gel kuersetin 0,2%. Pengamatan penutupan luka dilakukan pada hari ke 3, 6, 9, dan 12.

Hasil uji *Post Hoc LSD* menunjukkan hasil bahwa kuersetin yang diformulasikan dalam gel dengan konsentrasi 0,05%, 0,1%, dan 0,2% memberikan persentase penutupan luka yang berbeda tidak bermakna satu sama lain dan berbeda tidak bermakna terhadap kontrol positif, tetapi memberikan perbedaan bermakna terhadap kontrol negatif dan tanpa perlakuan, sehingga dikatakan pemberian gel kuersetin membantu percepatan penutupan luka terbuka *biopsy punch*.

Kata Kunci: Penutupan luka, kuersetin, gel, Na-CMC

ABSTRACT

Open wounds are a condition of tissue damage that can occur on the skin. The occurrence of open wounds causes the body to carry out a regeneration response called wound healing. One of the compounds that has the effect of accelerating wound closure is quercetin. Giving gel with the active substance quercetin to the wound is expected to reduce the inflammatory response and increase fibroblast density. The purpose of this study was to evaluate the activity of quercetin gel preparations in accelerating open wound closure using the biopsy punch method in male Wistar strain rats.

This type of research is a pure experimental study with a completely randomized study design with a unidirectional pattern. After the biopsy punch was performed, each control and treatment category was given a different application for 11 days except for the category without treatment. The negative control was given a base application treatment, the positive control was given a Lukajel® application treatment, gel treatment 1 was given a 0.05% concentration quercetin gel application, gel treatment 2 was given a 0.1% quercetin gel application, and gel treatment 3 was given a 0.2% quercetin gel application. Observation of wound closure was carried out on days 3, 6, 9, and 12.

The results of the Post Hoc LSD test showed that quercetin formulated in gel with concentrations of 0.05%, 0.1%, and 0.2% provided a percentage of wound closure that was not significantly different from each other and was not significantly different from the positive control, but provided a significant difference from the negative control and without treatment, so it is said that the administration of quercetin gel helps accelerate the closure of open biopsy punch wounds..

Keyword: Wound healing, quercetin, gel, Na-CMC