

SEQUENTIAL CHANGE OF WOUND CALCULATED BY IMAGE ANALYSIS USING A COLOUR PATCH METHOD DURING A SECONDARY INTENTION HEALING

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Background: Photographs of skin wounds have the most important information during the secondary intention healing (SIH). However, there is no standard method for handling those images and analyzing them efficiently and conveniently.

Objective: To investigate the sequential changes of SIH depending on the body sites using a colour patch method

Methods: We performed retrospective reviews of 30 patients (11 facial and 19 non-facial areas) who underwent SIH for the restoration of skin defects and captured sequential photographs with a colour patch which is specially designed for automatically calculating defect and scar sizes.

Results: Using a novel image analysis method with a color patch, skin defects were calculated more accurately (range of error rate: -3.39% ~+3.05%). All patients had smaller scar size than the original defect size after SIH treatment (rates of decrease: 18.8% ~ 86.1%), and facial area showed significantly higher decrease rate compared with the non-facial area such as scalp and extremities (67.05 ± 12.48 vs. 53.29 ± 18.11 , $P < 0.05$). From the result of estimating the date corresponding to the half of the final decrement, all of the facial area showed improvements within two weeks (8.45 ± 3.91), and non-facial area needed 14.33 ± 9.78 days.

Conclusion: From the results of sequential changes of skin defects, SIH can be recommended as an alternative treatment method for restoration with more careful dressing for initial two weeks.

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