

Research article

Comparison of gel ethanol green tea (*Camellia sinensis*) extracts and gel green tea water extracts for burns grade II on Marmut (*Cavia cobaya*) see from histopathology

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Abstract

Burns are a condition that can be experienced by every human being. Burns are often difficult to heal without the right treatment regimen. Bioplacenton is a gel that is often used to treat burns. Green tea has unique characteristics where the polyphenols can cause gradual growth and protect normal epithelial cells from carcinogenic substances. Among the content of polyphenols found in green tea, EGCG (*epigallocatekin galat*) and ECG (*epikatekin galat*) are the most abundant and very beneficial for the healing process of burns. This study aims to determine the difference in the speed of healing second degree burns between the administration of bioplacenton gel, CMC-Na gel base, green tea ethanol extract gel and green tea water extract with concentrations of 3%, 5%, and 7%, respectively, which included healing time and shrinkage of the size of burn size. This study was a laboratory experimental study using 27 guinea pigs that were induced by second degree burns and divided into groups of groups; control, control (-), bioplacenton (P1) gel, 3% green tea water extract, 5% green tea water extract, 7% green tea water extract, 3% green tea ethanol extract, 5% green tea ethanol extract, extract green tea ethanol 7%. Observation of healing time and shrinkage of wound diameter was carried out for 14 days. Data were analyzed using One way ANOVA statistical test and Kruskal wallis. The conclusions of this study are (1) Green tea ethanol extract and green tea water extract can be made in gel preparations which are proven by the results of testing of preparations that remain stable in 12 weeks, and do not irritate. (2) The preparation of green tea extract gel in water and ethanol has effectiveness in healing burns and can improve collagen in burns tissue. (3) The concentration of green tea ethanol extract and green tea water extract at the highest concentration is 7% which is most effective in healing burns and repairing collagen tissue and fibroblasts.