ABSTRACT

EFFECT OF RED GINGER (Zingiber officinale var. Rubrum) EXTRACT ON COUNTS OF MACROPHAGES AND BLOOD VESSELS IN CLEAN WOUND TISSUE OF MALE MICE (Mus Musculus)  
(Experimental Research on Test Animal)

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Introduction: Red ginger (Zingiber officinale var. Rubrum) is used as traditional medicine as it contains high oleoresin and atsiri oil. Prevalence of wound has increased based on data from Riskesdas and wound healing process needs time. This study aims to prove that red ginger can speed up inflammation phase and proliferation phase in healing process of clean wound in male mice (Mus musculus).

Methods: This study was an experimental study with post test only control group design. A clean wound was made on 32 mice's backs and they were grouped into 4 groups. The first and second group were given oral sterile aquadest for 3 and 5 days. The third and fourth group were given oral red ginger extract 50 mg/kg its weight for 3 and 5 days. The skin tissue was made into histologic slides. The slides were analyzed with 400x enlargement and graticulae under the microscope. Counts of macrophages and blood vessels were compared with independent samples test or wilcoxon mann whitney test.

Results: The macrophage counts were lower in day-3 experimental than day-3 control groups ($p=0.008$) and in day-5 control than day-3 control groups ($p=0.049$). There was higher macrophage counts in day-5 experimental than day-3 experimental groups ($p=0.025$). There were higher blood vessels counts in day-5 control than day-3 control groups ($p=0.002$), and in day-5 experimental than day-3 experimental groups ($p=0.049$).

Conclusion: Red ginger extract in ethanol can reduce macrophage count at day 3 but has no effect in blood vessels counts in clean wounds of male mice.

Keywords: Zingiber officinale var. Rubrum, red ginger, wound healing, macrophage, blood vessel, mice.