

Waroonluk Sriwiroch 2011: The Effect of *Pedilanthus tithymaloides* (L.) Poit Crude Extract on Wound Healing Stimulation in Mouse. Master of Science (Veterinary Anatomy), Major Field: Veterinary Anatomy, Department of Anatomy. Thesis Advisor: Assistant Professor Urai Pongchairerk, Ph.D. 113 pages.

The present study was aimed to investigate potential of ethanolic extract of *Pedilanthus tithymaloides* (L.) in excision wound healing stimulation. The 8-week-old female mice were divided in to three groups to create 1x1 cm wounds on the back of each mouse daily with methylcellulose (negative control), 0.5% and 1.5% crude extract from *Pedilanthus tithymaloides* (L.) in group 1, 2 and 3, respectively. The results were compared among treatment and control groups, in term of wound gross appearance parameter of wound healing (%epithelization, %wound contraction and %total wound healing) and microscopic appearance.

From gross appearance, the wounds treated by crude extract showed faster granulation tissue formation and wound size reduction than control group. The wounds closure was completed on day 14 while methylcellulose treated wounds were completely closed on day 16. However, 0.5% crude extract caused significantly higher % epithelization, % wound contraction and % total wound healing ($P<0.05$) of wounds when compared to other groups. The microscopic appearance of wounds using H&E and Masson's trichrome stainings showed earlier development with higher amount of collagen fiber, blood vessel and fibroblasts in all wounds treated by crude extract than in control group. Moreover, the stellate shape fibroblasts were also found in crude extracted treated wounds while they were not existed in the control group at all. Nevertheless, the size and density of collagen fibers and bundles were the highest in wounds treated by 0.5% crude extract, evaluated by estimation from scale bar and using computer software (Image Analysis Software), respectively. In conclusion, the crude extract from *Pedilanthus tithymaloides* (L.) was efficient to stimulate wound healing. However, the practical concentration of crude extract was 0.5% since it did not cause irritation and inflammation to the wound.

Student's signature

Thesis Advisor's signature