



The Effect of Topically Applied Hyaluronic Acid on Skin Wound Healing in Rabbits

ABSTRACT

This study aims to evaluate the effect of the topical application of hyaluronic acid cream 0.2% in the skin wound healing in rabbits. Thirty two healthy New Zealand adult male rabbits approximately at the same age and weight were involved in this study; all animals were anaesthetized using a 40 mg/kg ketamine and xylazine 4 mg/kg injection intramuscularly. The skin of the dorsum area of each rabbit was aseptically prepared and then two incisions (1cm in length) were made on the skin. Wounds were left without suturing to heal by secondary intention healing. Each animal had two wounds (wounds divided into two groups according to the type of treatment): one treated with hyaluronic acid cream twice a day, the second wound was left untreated. The application of the cream was repeated daily. Rabbits were divided into 4 groups according to sacrifice days; every eight rabbits were sacrificed in days 1st, 3rd, 7th, and 14th days, biopsies were taken and sent for histological assessment. Group treated with hyaluronic acid showed significant improvement in wound healing capacity in the skin of rabbits; granulation tissue formation and re-epithelialization were significantly improved in the hyaluronic acid group compared with the control group in the 3rd and 7th days. Also, Re-epithelialization in the hyaluronic acid group was better on the 14th day of this study compared with the control group. Hyaluronic acid cream increases the rate of wound healing in the skin of rabbits