Effect of *Tremella* Polysaccharides Nonwoven Dressing on Healing of Surgical Wounds of Rats


Abstract


Some commercial products used as wound dressing in clinics are made of natural polysaccharides which are biodegradable and biocompatible. Polysaccharides extracted from fruiting bodies of *Tremella fuciformis* are nature polymers with moisturizing and anti-inflammatory properties. The objective of this study was to determine effects of the *Tremella*-polysaccharide non-woven product (Tp-nonW) as wound dressing on healing of surgical wounds of rats. Results showed that wound dressing with Tp-nonW or Kal-PC (a commercial product Kaltostat made of Calcium/Sodium Alginate and used as positive control) significantly (*p* < 0.05) decreased the wound area of rats. Compared to the treatment of wound dressing of Alg-NC (a commercial product made of Sodium Alginate and used as negative control), the healing area of wounds covered with Tp-nonW for 10 and 14 days increased by 20 and 49.2% respectively. Results of the histopathological study showed that the score of regrowth tissues from wounded skin was 5.8 and 5.4 for the treatment of Kal-PC and Tp-nonW, respectively, compared to the score of 4.6 for the negative control Alg-NC, but the difference among these three treatments was statistically insignificant (*p* > 0.05). This study suggests that *Tremella*-polysaccharide non-woven dressing (Tp-nonW) has wound healing properties on rats and it may warrant further studies in human clinic trials.

Key words: *Tremella fuciformis*, Polysaccharides nonwoven, Wound dressing, Animal model.

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