

Topical treatments with blue-green algae aqueous extract promote healing of diabetic wound

ABSTRACT

Blue-green algae or scientifically known as *Spirulina platensis*, is gaining more attention and becoming a health food worldwide due to its nutritional and medicinal properties. Their roles as antioxidant, antiviral, anticancer and antidiabetic have been well established. The aim of this study is to examine the efficacy of aqueous extract of *Spirulina platensis* on wound repair in streptozotocin/nicotinamide-induced diabetic rats. Open excision wounds were made on the back of rats 5 days after diabetes induction. Aqueous extract at a dosage of 100 and 200 mg/kg body weight was reconstituted in 100 μ l of phosphate buffered saline and applied topically once every 2 days up to 14 days for the treated wounds. Animals in normal and diabetic control groups were left untreated. Wound areas were measured on day 0, 7 and 14 post-wounding. Wound size and percentage wound contraction were observed to heal much faster on diabetic wounds which received treatment of the extract. The findings demonstrate the beneficial effects of the topical application of blue-green-algae aqueous extract in the acceleration of diabetic wound healing in animal model.

Keyword: *Spirulina platensis*; Diabetes; Wound healing; Wound contraction