



The Effect "Ox-Water" on Wound Healing of Diabetic Rats (*Rattus norvegicus*) Induced by Multiple Low Dose of Strptozotocin (MLD-STZ)

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Abstract: Diabetes mellitus (DM) is one of glucose metabolic disorders characterized by pancreatic β cell destruction that followed the conditions of hyperglycemia and healing of wounds that are difficult to cure. Oxygenated water is believed able to suppress the growth of bacteria in the wound. Many therapies both with chemicals or herbal substances have been reported. The aimed of this research was to investigate the activity of 100 ppm Ox-water to treat wounds on the state of diabetic conditions through the inhibition of anaerobic bacteria, through the blood glucose levels and histopathology of skin, expression of GLUT 2 expression by immunohistochemistry on diabetis rats. Diabetic rats induced by 20 mg/kg BW of MLD STZ for 5 days. This study used male rats (*Rattus norvegicus* Wistar strain) with 10-12 weeks of age and 200 g of body weight. Rats were divided into five groups; (A) control group (healthy rats); (B) diabetic rats with brisket wound due to incisi; and (C), (D) and (E) were diabetic rats with brisket wound due to incisiand received therapies with 100 ppm Ox-water spray on skin wound and 2 mL force feeding in ones, twice and third times a day for 14 days, respectively. MLD-STZ resulted in diabetic rats and had bear up for 14 days after last injection without any therapies. This findings showed a decreased of brisket wound length on rats on groups with 100 ppm Ox-water therapies. There was alsoan improvement of skin on brisket wound after100 ppm Ox-water therapies. This finding suggests the efficacy of using 100 ppm Of-water for wound therapy on the condition of diabetic patients with spray method directly on the wound.

Key words : diabetes mellitus, 100 ppm Ox-water, GLUT-2, blood glucose levels, wound length.