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The potency of arthrospira platensis towards muscles reinnervation after sciatic nerve crush injury in rats

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Reinnervation is the restoration process of the loss nerve supply to a part of a body. Sciatic nerve injury is commonly resulting in degeneration of the distal axons and muscle denervation that lead to muscle atrophy. Skeletal muscle denervation can cause several changes including paralysis, loss of weight, and the reduction of muscle fiber diameter. In this study, we used *Arthrospira platensis* that have a high source of Gamma Linolenic Acid (GLA), phycocyanin and vitamin B complex. The aim of this study to observe the motor functional recovery in rat model through muscle weight, behavioural analysis and histological analysis. Four major groups were divided from 104 SD rats; normal group (n=8), negative control groups (n=32) (no treatment administered PO), positive control group (n=32) (Injured rats administered with 500 µg/kg/day of methylcobalamin) and the experimental groups (n=32) (Injured rats administered with 180mg/kg/day of *A. platensis*). The recovery rate of muscle weight result of both soleus and EDL faster in *A. platensis* group than negative control. Behavioural analysis evaluated by rotarod test showed that the rat given 180mg/kg/day of *A. platensis* exhibit faster onset of motor functional recovery compared to negative group and almost on a par with the positive group result. After 28 days, the thickness of the muscle fibers in the experimental group signifies the reduced muscle atrophy and have denser Schwann cell around the myelin. The results indicated *A. platensis* has the potency to enhances the nerve regeneration to help the reinnervation of muscles

Biography

He is currently studying and is a tutor at University Malaya. He is also a Lecturer at Management and Science University, Malaysia.

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