

Effects of acupuncture treatment using a model of skeletal muscle injury caused by extension contraction

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Whiplash injury is a general term for a neurologic injury that is also caused by the eccentric contraction of skeletal muscles. Electroacupuncture (EA) is used to treat myalgia and muscle damage, but its effect on whiplash injury is unknown. In this study, we used a muscle injury induction model to analyze the therapeutic effects of EA after muscle injury.

Thirteen male subjects were randomly divided into two groups. All subjects were subjected to eccentric exercise on the biceps brachii muscle of the non-dominant arm to induce muscle damage. The control group received EA on the dominant arm, and the EA group received EA on the biceps brachii of the non-dominant arm. The duration of the EA was from just after exercise to 4 days after the exercise.

There were no differences in all muscle damage and inflammatory markers between the control and EA groups. There was no difference in all muscle damage and inflammation markers between the control and EA groups. On the other hand, only maximum voluntary contraction was increased by EA stimulation. These results suggest that local EA after eccentric exercise has a muscle-protective effect by increasing maximum voluntary contraction, which may lead to a therapeutic effect.