EFFECTS OF MYOFASCIAL INDUCTION ON ELECTROMYOGRAPHY OF QUADRICEPS MUSCLE
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BACKGROUND: Massage therapy after high intensity exercise may change muscular excitability by inducing both relaxation and local fatigue rate, although it is not clear its expression a miolectric level. OBJETIVE: The aim of this study is evaluate the effect of massage-myofascial induction on neuromuscular recruitment after high intensity exercise.

METHODS: Sixty two healthy subjects performed 3 Wingate tests for 30s. Then they were assigned in a randomized form to two groups either massage-myofascial induction either electrotherapy-placebo, both intervention of 40 minutes. Electromyography (EMG) data were captured at basal, post exercise and post recovery periods during a maximal voluntary contraction in a single leg weight bearing exercise.

RESULTS: Exercise protocol induces an increase of the EMG significantly in vastus medialis (VM) (P<0.001), vastus lateralis (VL) (P<0.01) and trends to increase in rectus femoris (RF)(P=0.05). After recovery period, massage group showed a significant decrease of EMG activity in VM respect to basal measure (P=0.02) while placebo group showed not differences respect basal measure (P=0.32). GEE models confirmed interaction in VM(P=0.02) but not in VL(P=0.75) and RF (P=0.53).

CONCLUSIONS: Myofascial induction reduces electromyographic amplitude during a maximal voluntary contraction, after its application as a way of passive recovery after high intensity exercise protocol. We think it is possible that myofascial induction may induces a transitory inability for muscles strength or a change in tension/length relation influenced for muscle architecture alteration.

Keywords: Electromyography, Neuromuscular System