

عنوان مقاله:

The Effects of Resistance Training with Palm Pollen on Scleraxis Protein and Gene Expression Levels in the Tendon Tissue of Male Adult Rats

محل انتشار:

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خلاصه مقاله:

Background and objectives: Controlling nutrition and exercise can be two important strategies in controlling tendon health. It has been reported that resistance training and palm pollen separately can improve Scleraxis (Scx) in tendon tissue; so present study aimed to investigate the interactive effects of resistance training with ethanolic extract of palm pollen on Scx protein and gene expression levels in the tendon tissue of male adult rats. Methods: In this experimental study 30 male adult rats divided into 6 groups of 6 rats including: 1) sham, 2) training, 3) palm pollen, 4) testosterone, 5) training + palm pollen, and 6) training + testosterone. During 4 weeks, groups 2, 5, and 6 performed resistance trainings for five sessions per week; groups 3 and 5 received 100 mg/kg palm pollen for five days per week via gavage and groups 4 and 6 received 2 mg/kg testosterone propionate peritoneally. Scx protein and gene expression levels were measured in tendon tissue by Western blot and real-time PCR methods respectively. Shapiro-Wilk, one way ANOVA with Tukey's post-hoc tests were used to analyze the findings ($P \leq 0.05$). Results: Training significantly increased Scx protein levels ($P=0.005$); palm pollen significantly increased Scx gene expression levels ($P=0.001$); training + palm pollen significantly increased Scx protein and gene expression levels ($P=0.001$) also training + palm pollen had more favorable effect on increase of Scx protein and gene expression levels compared to training and palm pollen alone ($P=0.001$). Conclusion: It seems that resistance training simultaneously with palm pollen administration can have a more favorable effect than each one alone on improving Scx protein and gene expression levels in tendon tissue of male adult rats.

کلمات کلیدی:

Training, Palm Pollen, Tendon, Scleraxis

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