16-Week high intensity interval training does not alter LKB1 and AMPKα protein in Rats Liver

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Objective Liver, as one of the most important organs involved in lipids and glucose metabolism, yet no study has examined the response of liver kinase B1 (LKB1) and AMPKα signaling after high intensity interval training. This study aims to evaluate the effect of 16-week high intensity interval training intervention on the expression of LKB1, AMPKα in liver of aging rats.

Methods 8-month-old male Wistar rats (n=40) were randomly divided into control group (C) and HIIT group (H). Group H with 70%-90%-50%VO2max intensity training for 50min/day, 5 days/week, lasted for 16 weeks. Rats were killed on 0, 8 and 16 weeks. We examined the protein expression of LKB1 and AMPKα in liver. Proteins were analyzed by western blot analysis. Data are mean±SD; for ANOVA, p<0.05 was significant.

Results The AMPKα levels in group C and group H increased with time and there was no significant difference between the groups. The content of LKB1 in group C and group H both increased first and then decreased, but there was no significant difference between the groups.

Conclusions 16-week high intensity interval training intervention had no effect on LKB1, AMPKα protein expression in aging rats.