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16-Week high intensity interval training does not alter LKB1 and AMPK α 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 AMP-activated protein kinase α (AMPK α) 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、AMPK α 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 AMPK α in liver. Proteins were analyzed by western blot analysis. Data are mean \pm SD; for ANOVA, p<0.05 was significant.

Results The AMPK α 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, AMPK α protein expression in aging rats.