

Relationship Between Muscle Mass and Insulin Resistance in Cirrhotic Patients with Hepatitis B

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Abstract : We aimed to evaluate the relationship between insulin resistance, muscle mass and muscle strength in patients with Hepatitis B virus-related cirrhosis. In our study, there were 65 patients with hepatitis B virus-related cirrhosis in Child A and B group and 65 healthy control individual. Control group was chosen between patients who admitted to the internal medicine clinic and had no pathological values in a routine examination. Muscle mass index was calculated with bioimpedance analysis for both groups to determine muscle strength and muscle mass. Handgrip strength, arm, and calf circumference were measured. In both groups, HOMA-IR was calculated to determine insulin resistance. Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) value was detected $3,47 \pm 3,80$ in the study group and $1,83 \pm 1,20$ in control group. There were significant differences between the two groups in arm circumference, fasting insulin, fasting glucose, HOMA-IR, High-density lipoprotein (HDL) and total cholesterol parameters. The correlation coefficient between muscle mass and insulin resistance was statistically insignificant, especially in the study group. In healthy individuals group and all the groups, there wasn't a correlation between muscle mass and insulin resistance. The upper limit for HOMA-IR was determined as 3,2. In control group, %78,9 of individuals were in HOMA-IR ($< 3,2$) group and %21,1 of them were in ($\geq 3,2$) group. In study group, %68,3 of individuals were in HOMA-IR ($< 3,2$) group and %31,7 were in HOMA-IR ($\geq 3,2$) group. In our study, we did not find a relationship between muscle mass and insulin resistance in patients with liver cirrhosis. In the study group, we detected a positive relationship between muscle mass, handgrip strength, and calf circumference. We did not find a relationship between insulin resistance and handgrip strength in our study.

Keywords : cirrhosis, hepatitis B, Insulin resistance, muscle mass

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