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(-)-Hydroxycitric acid ingestion increases fat utilization during exercise in untrained women

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Abstract

(-)-Hydroxycitric acid (HCA) is a competitive inhibitor of the enzyme ATPcitrate-lyase, which inhibits lipogenesis in the body. Moreover, HCA increases endurance exercise performance in trained mice and athletes. However, had not been investigated in untrained animals and humans. Therefore, we investigated the effects of short-term HCA ingestion on endurance exercise performance and fat metabolism in untrained women. In two experiments designed as a double-blind crossover test, six subjects ingested 250 mg of HCA or placebo (same amount of dextrin) via capsule for 5 d and then participated in cycle ergometer exercise. They cycled at 40% VO2max for 1 h and then the exercise intensity was increased to 60% VO2max until exhaustion on day 5 of each experiment. HCA tended to decrease the respiratory exchange ratio (RER) and carbohydrate oxidation during 1 h of exercise. In addition, exercise time to exhaustion was significantly enhanced ($p<0.05$). These results suggest that HCA increases fat metabolism, which may be associated with a decrease in glycogen utilization during the same intensity exercise and enhanced exercise performance.

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