Effects of lactic acid on the performance during exercise

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I A: lactic acid MCT: monocarboxylate transporter

Content:

To maintain moderate or heavy exercise, a sufficient supply of adenosine triphosphate, which provides chemical energy to active muscle, is required. The anaerobic energy metabolism that produces lactic acid is an energy metabolic system. It used to be believed that lactic acid produced during exercise is a metabolic waste that causes fatigue. However, recent studies have suggested that lactic acid is an energy source for aerobic energy metabolism. Thus, I've been studying to clarify the role lactic acid plays in the performance during exercise by considering (1) how the landscape of energy metabolism changes with various exercise patterns and workloads and (2) how these changes influence performance during exercise.

Appealing point:

I challenge to clarify the physiological mechanisms during exercise by using noninvasive and low-invasive biomedical measurements: electrocardiogram, electromyogram, oxygen uptake, concentration of blood lactic acid, blood glucose level, etc.

Yamagata University Graduate School of Science and Engineering Research Interest: medical and biological engineering, exercise physiology

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