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Effect of Prolonged Exercise on the Serum LDH & CPK

(Consecutive Determinations of Enzymes)

by Masayuki Matsuda*

This study was done to investigate if the change in serum LDH & CPK was due to muscle injury or metabolic adjustment.

The blood samples were obtained before the exercise, during the training and after resignation. Subjects were members of athletic club of Keio Univ., aged 19 to 23 years. Group 1 consists of students who had no previous training as a long distance runner and began to run averagely 10 km daily, and group 2, who resigned.

In conclusion:

- 1) The increment in CPK was more prominent than that in LDH after prolonged exercise.
- 2) In some subjects the serum CPK sustained high for a few months after cessation of exercise. This may indicate that elevation of CPK is not due to muscle injury but is due to metabolic adjustment.
- 3) Daily 10 km running is good enough to cause elevation of serum CPK in a period of some weeks.

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