

階級制スポーツにおける急速減量に関する研究

(3) 末梢血エオジン好性白血球の動態からみた減食減量の影響について

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Studies on the Effects of Rapid Weight Reduction in Sports with Weight-Classification System

Peport 3. Effects of weight reduction by low-calory diet on the circulating eosinophile counts

by

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In order to find out the effective method of rapid weight reduction in sports with weight-classification system, healthy three college men were exposed to low-Calory diets to reduce weight for the duration on seven to nine days. Measurements were made on eosinophils, physical fitness, and cardio-respiratory function by bicycle ergometer through out the periods of weight reduction.

Results obtained were as follows

1. Due to the restricted calory intake, weight reduction was easy untill fourth day, but thereafter it was difficult in spite low calory diets.

2. Grip Strength and sit ups decreased especially in the first day. And, during the period, static muscular endurance, vertical Jump, and work (Vertical Jump×Body weight) decreased, whereas side steps and back strength increased. All the values of skinfold thickness measured on eight location showed decrease of 17% or more, especially, it was remarkable in abdomen, thigh (back) and Buccalis.

3. The levels of eosinophile counts at rest showed decrease in the First three days on the last three days. But it was increased in between days. And after the given load of physical exercise, eosinophile counts level was decreased below the resting level, especially, during the third through the seven day.

4. As to cardio-respiratory response to the bicycle ergometer loading (100 watt×10 min.)
① Oxygen Requirement was increased during the first few days. But it was decreased thereafter, ② Oxygen pulse showed a similar trend to change of oxygen requirement, but remarkable decrease was seen in the fifth through ninth day, and ③ Heart rate observed to be increase due to weight reduction.

5. From above results, due to the rapid weight reduction mainly by low-calory diets, Various physical response to exercise seemed to differ in the period of the First seven days from those appearing thereafter. [Proceedings of Department of Physical Education College of General Education, University of Tokyo, No. 7, 49~60, 1972.]

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