My safe return from Mont Blanc-Fear of hypothermia

Kazusa FUNAKI
Tomakomai Higashi Hospital

When I was a university student I went to the European Alps' highest mountain, Mont Blanc, for mountain skiing with one of my friends. Skiing down at an altitude of 2500 meters I fell into a 27-meter hidden crevasse. There was a narrow place by chance and my rucksack was caught. My whole body was supported upwards by the right shoulder band of the rucksack. Since I hit my head hard I lost consciousness. Although my friend contacted the rescue team in Chamonix, the search by helicopter was abandoned because of a snowstorm that day. The next morning it was fine weather and the helicopter came to pick up a dead body. When I was pulled up there was a life response and so I was admitted to Chamonix Mont Blanc hospital. Since I had been hanging in the glacier for 16 hours, my temperature when I was discovered was down to 28 degrees. I fell into a comatose state. The room temperature was raised and medical treatment for hypothermia, warmed intravenous drip, was begun. Although my temperature returned to normal, I developed acute renal failure and was moved to the Grenoble Center Hospital. I recovered consciousness five days after the accident in response to the intensive care I received.

Hypothermia is defined as the drop of core temperature below 35°C. Hypothermia is a result of the combined effects of cold, wet and wind. With severe hypothermia, rapid peripheral heating of the whole body should be avoided because they often lead to afterdrop. Also, aggressive movement may precipitate cardiac arrhythmias, such as ventricular fibrillation or asystole, so gentle handling of all hypothermia victims is mandatory. Otherwise hypothermia can be fatal.

Key Words: hypothermia, crevasse, rewarming, afterdrop.

Effect of endurance training on fatty acid-binding protein content in rat skeletal muscle

Megumi HASHIMOTO, Akira NAKATANI
Nara University of Education

Purpose: Recently, fatty acid-binding protein (FABP) was isolated in skeletal muscle. However, the function of FABP is still unclear. The purpose of this study was to determine the effect of endurance training on FABP content in rat skeletal muscle. Methods: Male Wistar rats, 5 weeks old, were assigned to either a sedentary control (S) or endurance trained (T) group. Exercise training was 5wk swimming program in which duration of swimming was gradually increased to 6h/day. They ate their diets ad libitum for 5 weeks. Results and Discussion: Body weight and epidydimal fat pad weight in T rats were significantly (P<0.001) lower than in S rats. Serum triglyceride and total cholesterol level were also significantly (P<0.001) lower in T group than in S group. CS activity in skeletal muscle was significantly higher in T group than S group (76.7 ± 21.4 μ mol/min/g, 50.2 ± 8.0 μ mol/min/g, respectively). There was no significant difference in 3-HAD activity in red gastrocnemius muscle between S and T groups. CPT I activities in T group were significantly (P<0.05) higher than in S group (~33%). Endurance training induced significant increase in FABP content in skeletal muscle (50.8 ± 8.1 μ g/g vs. 64.5 ± 9.9 μ g/g). These results suggest that endurance training may increase fatty acid transport and fat metabolism in skeletal muscle.

Key Word: fatty acid-binding protein, CPT I, Endurance Training