再録　ポスター発表

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Acute Effects Of Monounsaturated (Oleic Acid) And Saturated (Palmitic Acid) Dietary Fats On 24hour Energy Metabolism

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要旨

Aim of the present study was to examine acute effects of monounsaturated (oleic acid: OA) and saturated (palmitic acid: PA) dietary fats on 24hour energy metabolism. Eight males participated two sessions of indirect calorimetry in a whole-room calorimeter. In each session, subjects consumed high-oleic acid diet (HOAD: 42% of energy as fat, 57.6% as OA, 7.8% as PA) or high-palmitic acid diet (HPAD: 42% of energy as fat, 37.6% as PA, 41.6% as OA) in three meals. Core body temperature was monitored using an ingestible telemetry pill systems. Significantly respiratory quotient was decreased and fat oxidation was increased after breakfast and lunch in HOAD condition compared with those of HPAD. Fat oxidation over 24hour was also enhanced (P=0.08) in HOAD, suggesting a decreased fat accumulated from dietary fat. The present results suggest that a diet rich in saturated fatty acid stimulates body fat accumulation compared with that rich in monounsaturated fatty acid. It has been shown that a diet rich in saturated fatty acid delays biological clock. Although diurnal rhythm of core body temperature of some subjects was delayed by HPAD condition, the difference did not reached a statistical significant level.