Carbohydrate Attenuates Central Fatigue in Cyclists

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Abstract

**Purpose:** Carbohydrate ingestion (C) delays fatigue during submaximal exercise. The purpose of this study was to identify the mechanism (peripheral vs. central) by which carbohydrate ingestion delays fatigue after exhaustive cycling.

**Methods:** 10 men (31±2 yrs; VO2peak 60.3±2.3 ml/kg/min) and 5 women (43±1.6 yrs; VO2peak 44.7±2.7 ml/kg/min) were assigned, in a double-blind, cross over design, to an artificially sweetened, non-caloric, electrolyte beverage (AC, Totally Light 2 Go; "PL") and to a commercially available sports drink (Gatorade; "CHO") at a rate of 1% body weight per hour throughout the first 2 hours of cycling.

**Results:** Subjects consumed carbohydrate during exercise. Blood glucose was better maintained overall compared to PL (p=0.005), performance in men and 19% in women (p=0.015). Carbohydrate better maintained central activation during long duration cycling in men.

**Conclusions:** This study demonstrates that carbohydrate ingestion during exercise attenuates central fatigue and improves performance in well-trained male cyclists during prolonged exercise.

References