Olive oil by-product could aid exercise

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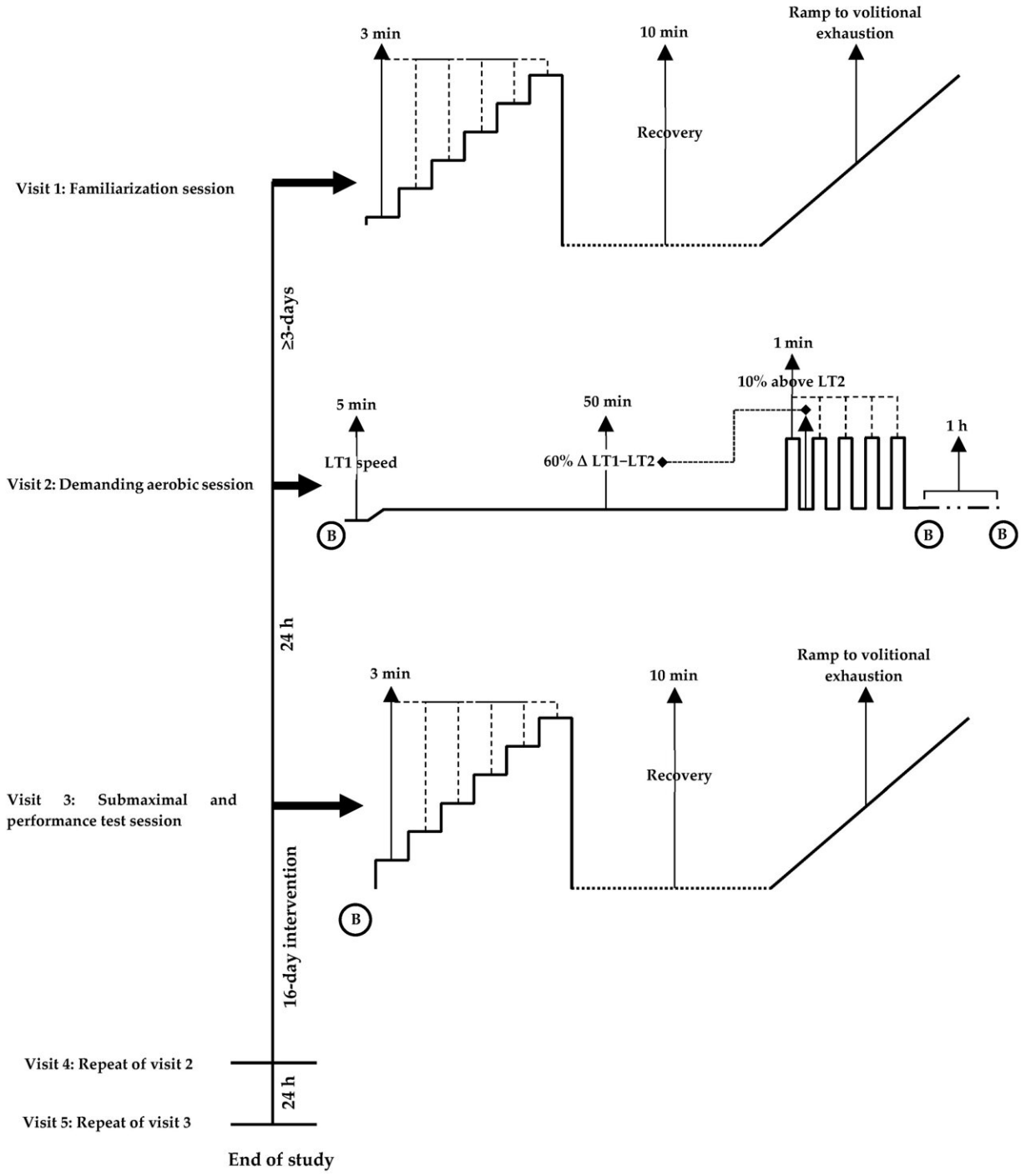

Schematic of study protocol outlining the familiarization (visit 1), demanding aerobic session (visit 2) and submaximal and performance test session (visit 3). B = blood sample; LT1 = lactate threshold; LT2 = lactate turnpoint. Credit: *Nutrients* (2023). DOI: 10.3390/nu15020421

New research has found that a natural by-product of olive oil production could potentially have antioxidant benefits and support exercise.

The study, led by nutrition researchers at Anglia Ruskin University (ARU) and published in the journal *Nutrients*, is the first to examine the benefits of natural olive fruit water for recreationally active people.

Olive fruit water is a waste product derived from producing olive oil. Olives contain polyphenols which have antioxidant properties, and a commercially available olive fruit water product, called OliPhenolia, contains a number of phenolic compounds and is particularly rich in hydroxytyrosol.

The first study into its potential benefits for people who exercise involved 29 recreationally active participants who consumed either OliPhenolia or a placebo, matched for taste and appearance, over 16 consecutive days, and it found positive effects on several key markers of running performance.

OliPhenolia consumption improved respiratory parameters at the onset of exercise as well as oxygen consumption and running economy at lower levels of intensity (lactate threshold 1).

Respiratory parameters at higher intensity (lactate threshold 2) were largely unaffected, but perceived exertion—how hard participants thought their body was working—was improved, as was acute recovery following incremental exercise.

Lead author Dr. Justin Roberts, Associate Professor in Health & Exercise Nutrition at Anglia Ruskin University (ARU), said, "For a long time I've been interested in the exercise benefits of polyphenols, such as

those derived from cherries and beetroot. To gain similar benefits from olives you would have to consume large quantities daily, which isn't realistic, so we were keen to test this concentrated olive fruit water."

"Like olive oil it contains hydroxytyrosol, but this olive fruit water is a sustainable by-product. It's typically thrown away during the production of olive oil, and we found a company in Italy—Fattoria La Vialla, a biodynamic farm in Tuscany—who decided to turn this waste water into a dietary supplement."

"Ours is the first study to investigate the use of this olive fruit water in an exercise setting and we found that 16 days of supplementation could have a positive influence on aerobic exercise, most notably at submaximal levels."

"We found that reduced oxygen cost and improved running economy, as well as improvements in acute recovery, indicate it could potentially benefit those who are undertaking regular aerobic exercise training."

"We now intend to carry out further research at Anglia Ruskin University to corroborate these findings. We are also looking to investigate whether this product can be used for marathon training and recovery, as well as test its effectiveness in suppressing inflammation associated with exercise."

Dr. Roberts carried out the work with researchers Jorge Pinto and Joe Lillis. The full study is published in *Nutrients*.

More information: Justin D. Roberts et al, The Effect of a Hydroxytyrosol-Rich, Olive-Derived Phytocomplex on Aerobic Exercise and Acute Recovery, *Nutrients* (2023). DOI: 10.3390/nu15020421

Provided by Anglia Ruskin University