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Effects of short-term ingestion of Russian tarragon prior to creatine monohydrate supplementation on anaerobic sprint capacity: a preliminary investigation

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Background

The improvement in anaerobic exercise capacity associated with supplementation with creatine monohydrate (CrM) has been well established. Extracts of Russian Tarragon (RT) have been reported to produce anti-hyperglycemic effects [1] and influence plasma creatine levels during the ingestion of CrM [2]. Theoretically, RT ingestion may enhance creatine retention and thereby promote greater ergogenic benefit compared to CrM supplementation alone. The purpose of this study was to determine if short-term, low-dose aqueous RT extract ingestion prior to CrM supplementation influences anaerobic sprint performance.

Methods

In a double-blind, randomized, and crossover manner; 9 untrained males (20±1 yrs; 180±11 cm; 79.9±14 kg) ingested 500 mg of aqueous Tarragon extract (*Finzelberg, Andernach, Germany*) or 500 mg of a placebo (P) 30-minutes prior to ingesting 5 g of CrM (*Creapure®, AlzChem AG, Germany*) (CrM+RT). Subjects ingested the supplements two times per day (morning and evening) for 5-days and then repeated the experiment after a 6-week wash-out period. Subjects performed two 30-second Wingate Anaerobic Capacity (WAC) tests at baseline, days 3 and 5 of supplementation protocol on an electronically braked cycle ergometer (*Lode, Netherlands*) interspersed with 3 minutes rest for determination of peak power (PP), mean power (MP), and total work (TW). Data were analysed by repeated measures MANOVA on 9 subjects who completed both trials. Data are presented as changes from baseline after 3 and 5 days for the CrM+P and CrM+RT groups, respectively.

Results

Absolute MP (9.2±57, 34.5±57 W; p=0.02), percent change in MP (2.5±11, 6.7±10%; p=0.03), absolute TW (274±1,700, 1,031±1,721 J; p=0.02), and percent change in TW (2.5±11, 6.6±10 %; p=0.03), increased over time in both groups. No significant time effects for both groups were observe in changes from baseline in absolute PP (-15.3±377, -65.7±402 W; p=0.73) or percent change in PP (1.8±21, -1.2±24 %; p=0.82). No significant differences were observed between CrM+P and CrM+RT groups in day 0, 3, or 5 PP (CrM+P 1,472±451, 1,435±182, 1,380 ±244; CrM+RT 1,559±214, 1,565±398, 1,519±339 W; p=0.92), MP (CrM+P 591±94, 599±89, 643±83; CrM+RT 590±103, 601±78, 608±96 W; p=0.27), or TW (CrM+P 17,742±2,822, 17,970±2,663, 19,264±2,482; CrM+RT 17,706±3,098, 18,029±2,339, 18,246±2,888 J; p=0.28).

Conclusions

Results suggest as little as 5g CrM taken twice daily for 3-5 days can improve MP and TW by 2-7%. However, results of this preliminary study indicate that ingesting RT 30-min prior to CrM supplementation had no additive effects on anaerobic sprint capacity in comparison to ingesting CrM with a placebo. Additional research is needed to examine whether ingestion of larger amounts of CrM in order to reduce variability, or larger amounts, changes in

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nutrient timing or increased duration of RT supplementation prior to and/or in conjunction with CrM ingestion would influence the ergogenic benefits of creatine supplementation.

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References

1. Pischel I, Burkard N, Kauschka M, Butterweck V, Bloomer RJ: **Potential application of Russian Tarragon (Artemisia dracunculus L.) in health and sports.** *J Int Soc Sports Nutr* 2011, **8(Suppl 1)**:P16.
2. Jäger R, Kendrick IP, Purpura M, Harris RC, Ribnicky DM, Pischel I: **The effect of Russian Tarragon (artemisia dracunculus L.) on the plasma creatine concentration with creatine monohydrate administration.** *J Int Soc Sports Nutr* 2008, **5(Suppl 1)**:P4.

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