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Dose effects of oral bovine colostrum on physical work capacity in cyclists

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Abstract

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Purpose

There is interest in the potential long-term use of dietary supplementation with bovine colostrum to enhance exercise performance. The purpose of the present study was to determine the dose effects of bovine colostrum on cycling performance.

Methods

Forty-two competitive cyclists were randomly divided into three groups and required to consume either 20 g/d bovine colostrum + 40 g whey protein concentrate (wpc), 60 g of bovine colostrum, or 60 g of wpc (placebo). Two measures were used to assess performance before (pre-) and after (post-) an 8-wk supplementation period. The first measure required subjects to complete two $\dot{V}O_{2\max}$ tests separated by 20 min with the

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amount of work completed in the second test used to evaluate performance. The second performance measure was the time to complete a work-based time trial following a 2-h cycle at 65% $\dot{V}O_{2\max}$. Subjects were required to maintain their regular training and keep a food and training diary over the study period.

Results

After supplementation, the performance enhancement in Measure One was not statistically significantly different in the colostrum groups compared to the placebo group (placebo = 3.4%, 20 g = 4.0%, 60 g = 3.9%; 95% confidence interval (CI) for differences, $\pm 1.8\%$, $P > 0.05$). In performance Measure Two subjects in the 20 g and 60 g groups completed the time trial significantly ($P < 0.05$) faster post supplement compared to pre supplement (improvements in performance times, placebo = 37 s, 20 g = 158 s, 60 g = 134 s; 95% CI for differences, 47 s).

Conclusion

Oral bovine colostrum supplementation at 20 g or 60 g/d provided a small but significant improvement in time trial performance in cyclists after a 2-h ride at 65% $\dot{V}O_{2\max}$.

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