Effects of Fenugreek, Cinnamon, & Curcumin on Post Workout Inflammatory Response

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Int J Exerc Sci 2(1): S18, 2009. It has been documented that strenuous exercise suppresses cellular immunity leading to increased susceptibility to infections and delayed recovery. As mediators of these phenomena, cytokines released into the circulation have been a recent focus of attention. **PURPOSE:** To assess the acute effectiveness of fenugreek, cinnamon, & curcumin on blunting inflammatory markers after muscle damage. **METHODS:** Twenty healthy non-resistance trained male and female subjects were equally divided by gender and assigned to ingested either a proprietary blend of fenugreek, cinnamon, & curcumin (N = 10, 21 ± 2.8 yrs, 174 ± 10 in, 77 ± 20 kg) or placebo (N = 10, 20 ± 1.9 yrs 175 ± 14in, 89 ± 20 kg). Subjects ingested 450 mg of either active supplement (400mg fenugreek, 25mg cinnamon, 25mg curcumin) or 450 mg of placebo for 14 days prior to the damage bout. Subjects were instructed to warm-up briefly and subsequently perform 24 sets of 10 eccentric knee extensor repetitions with one leg at 30°/s on an isokinetic device. Subjects had their blood drawn at baseline, immediately post, 1hr, 3hr, and 24hr post damage. Serum samples were analyzed for IL 1β, IL1rα, IL6, TNFα and CRP levels using a multiplex bead based assay. Data were analyzed by a two-way ANOVA with repeated measures ($p<0.05$). **RESULTS:** Significant ($p<0.05$) main effects for time were observed for the inflammatory / immune markers IL 1β, IL1rα, & IL6, although there were no significant ($p>0.05$) interaction effects. However, a significant trend for interaction was observed for IL 6 ($p=0.06$) & IL1 rα ($p = 0.09$). Post hoc analysis revealed a significant difference immediately post damage in IL 1rα where active group was significantly lower than the placebo group ($p<0.05$) than active and a significant difference at 1hr & 2hr post damage IL6 where placebo was significantly greater ($p<0.05$) than active. **CONCLUSION:** These results indicate that the protocol used induced significant ($p>0.05$) systemic inflammation. The experimental proprietary blend showed some positive anti-inflammatory effects as illustrated by a significantly ($p<0.05$) lower inflammatory response in IL1rα and IL 6 by 2hr post damage. It is concluded that fenugreek, cinnamon, and curcumin have potential anti-inflammatory properties and that they significantly reduced the onset of inflammation in response to muscle damage. This study was funded by Indus Biotech.