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A Randomized Double Blind Placebo Controlled Evaluation of MSM for Exercise Induced Discomfort/Pain.

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Methylsulfonylmethane (MSM) has been reported to provide anti-inflammatory & antioxidant effects in mammals. Resistance exercise is known to induce both inflammation & oxidative stress resulting in muscular discomfort & pain. In a pilot-proof of concept study, we determined the effects of MSM on markers of exercise recovery & performance.

Methods: In random order 24 moderately exercise-trained men (25.5 ± 5.6 yrs) received MSM 3.0 gm/d or PLA, for 14 days, with a 17-day washout between. The study included 3 tests: baseline, no product & the 2nd & 3rd following 14d supplementation with MSM & PLA. Each test consisted of 2 visits. At the 1st visit, subjects performed stressing exercise; 28 total sets of leg extensions, sets 1-25, predetermined weight, 10 reps each, sets 26-28 to muscular failure at 70% 1-RM (performance). At the 2nd visit (48 hrs later), subjects performed 12 total sets of leg ext, sets 1-9, predetermined weight, sets 10-12 to muscular failure, 70% 1-RM (performance). Muscle discomfort/pain (10-point VAS scale), inflammation (hs-CRP & IL-6), blood antioxidant status (TEAC & SOD), & homocysteine were measured before the stressing exercise and 2 & 48 hours post exercise. Exercise performance was also measured following 14d supplementation with MSM/PLA (sets 26-28 and sets 10-12). In order to eliminate sequence effects, results are provided on the 1st product as compared to baseline (comparison of the 1st & 2nd tests).

Results: MSM intervention resulted in significantly less pain/discomfort vs. PLA from baseline to 2 hrs (1.55 ± 0.82 vs 3.75 ± 2.58 , $p=0.012$). Change in IL-6 was significant within the MSM & PLA & between MSM (0.54 ± 0.76) vs PLA (-0.58 ± 0.97) $p = 0.006$. There were no significant differences between MSM & PLA noted for the other biomarkers.

Conclusion: MSM may help alleviate the discomfort/pain that can follow a stressful exercise session.