

PS 2457 A Randomized, Double-Blind, Three Cohort Crossover Study Assessing Gastrointestinal Tolerability of Magnesium Sources in Healthy Adults

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A clinical study was conducted to assess the GI tolerability and bowel habits of three different magnesium (Mg) mineral sources [MgB: magnesium bisglycinate; DMM: dimagnesium malate; MgC: magnesium citrate] at differing amounts in healthy adults. The study utilized a double-blind, controlled crossover three cohort design, in which 300, 450, or 600mg/d of a specific magnesium salt was compared against placebo in each cohort. Test periods were 4 days and washout between test periods was at least 3 days. Sixty-six subjects were randomized (N=22/cohort) and 65 completed the study. The number of bowel movements per test period was not significantly different, however, significant improvements in fecal consistency were seen for MgB and DMM compared to placebo. Specifically, the fecal consistency score for placebo was 3.89 ± 0.26 , which increased to 4.52 ± 0.24 ($p < 0.05$) for 600 mg MgB. Likewise, the fecal consistency score for placebo in the DMM cohort was 3.11 ± 0.22 , and increased to 3.74 ± 0.24 ($p < 0.05$) and 3.94 ± 0.25 ($p < 0.01$) for 450 and 600 mg DMM, respectively. Although no significant differences were noted for the ease of passage ratings, the average scores supported the findings for fecal consistency, with scores for the 450 and 600 mg servings of both MgB and DMM suggesting improvement (e.g., lower scores indicating easier stool passage). No significant differences in bowel habits were found for the MgC cohort. GI symptoms, when noted, were generally mild with no significant differences across test products and placebo. Of the GI symptoms reported, flatulence was the most prevalent during both placebo and active study product consumption. No AEs related to Mg study products were reported during the trial. Overall, all study products (MgC, MgB, and DMM) were well tolerated, with significant improvements in bowel habits noted for DMM and MgB over placebo or MgC.