**Effects of Dried Plum on Bone Biomarkers in Men (P01-028-19)**

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**Objectives:** Osteoporosis in men is an overlooked yet increasingly important clinical problem that, historically, has not received the same degree of awareness as with women. Epidemiologic studies demonstrate that male osteoporosis contributes significantly to the burden of osteoporotic fractures, especially among the aging population. Although several studies of male animals have demonstrated bone protective effects of dried plum, no human study has evaluated the effect of dried plum on bone metabolism in men. For this purpose, we conducted a randomized controlled clinical study to test if daily inclusion of 100 g dried plum will positively influence serum markers of bone metabolism in men.

**Methods:** Sixty-six men (50–79 years old) were randomly assigned to one of two treatment groups: 1) control (0 g dried plum) or; 2) 100 g dried plum with fifty-eight subjects completing the study. All groups received 500 mg calcium and 300 IU vitamin D (Shaklee Chewable Cal Mag Plus) as a daily supplement. Blood samples were collected at baseline, and after three and six months to assess biomarkers of bone turnover.

**Results:** Serum bone specific alkaline phosphatase (BAP) levels decreased significantly at 6 months in both control and dried plum groups. 100 g/day dried plum consumption resulted in a time-dependent reduction in serum tartrate resistant acid phosphatase-5b (TRAP5b) levels, a marker of bone resorption, at three- and six-month time intervals compared to baseline while there were no significant changes in serum TRAP5b levels of the control group. Dried plum consumption significantly decreased C-terminal collagen cross-links (CTX), another marker of bone resorption, three- and six-months compared to baseline. No changes were observed in the control group for CTX levels.

**Conclusions:** The results of the current study suggest that daily consumption of 100 g dried plum for 6 months has modest bone protective effects in men that are somewhat similar to those observed in postmenopausal osteopenic and older osteopenic women.

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