

Supplemental Calcium Fails to Prevent Weight Gain

BY NANCY WALSH
New York Bureau

BOSTON — Two years of treatment with supplemental calcium failed to significantly prevent weight gain in overweight, middle-aged adults, Dr. Jack Yanovski reported at the annual meeting of NAASO, the Obesity Society.

Multiple epidemiologic and observational studies have suggested that greater calcium intake is associated with less adi-

posity and reduced weight gain, but there have been no large clinical trials directly assessing the effects of calcium supplementation on body weight and composition.

To address the hypothesis of whether calcium can help prevent weight gain, a 2-year, double-blind trial randomized 340 healthy subjects to 1,500 mg calcium carbonate per day or placebo, said Dr. Yanovski, who heads the unit on growth and obesity in the Developmental Endocrinology Branch of the National Institute of Child Health and

Human Development, National Institutes of Health, Bethesda, Md.

Participants were informed that the study's purpose was to examine the health effects of calcium supplementation. They completed questionnaires every 3 months regarding their health and activities, and they were evaluated yearly for body weight and composition.

Mean age of the participants was 38.8 years, mean body mass index (BMI) was 33.4 kg/m², and 72% were female. A to-

tal of 39% were overweight, and 61% were obese.

There were no baseline differences between the calcium and placebo groups in terms of age, BMI, sex, race, or reported dietary calcium intake, which was a mean of 882 mg/day. Roughly 23% of patients reported calcium intake that was extremely low, less than 600 mg/day, he said.

A total of 77% of patients in the calcium group completed the 2-year study, as did 71% of those in the placebo group,

Orlistat Helps Maintain Weight Loss Long Term

BOSTON — Three years of orlistat following significant weight loss helped patients maintain the loss and reduced the incidence of new-onset type 2 diabetes, Dr. Bjorn Richelsen said at the annual meeting of NAASO, the Obesity Society.

"We know that we can induce initial weight loss, with maximal loss occurring after about 6-9 months, but thereafter, a strong regain occurs, so we need strategies for weight loss maintenance," Dr. Richelsen said.

In a study that included 383 abdominally obese patients from Denmark, Norway, Sweden, and Finland, 309 were able to lose at least 5% of their body weight during a 2-month very low energy diet consisting of 600-800 kcal/day and were randomized to 3 years of lifestyle counseling plus orlistat, 120 mg three times daily, or placebo.

Mean body mass index at baseline was 37.5 kg/m², and all patients had metabolic risk factors such as dyslipidemia and impaired fasting glucose.

There was an initial mean weight loss of 14.4 kg in the patients who subsequently were randomized. During each of the 3 years of the study, a statistically significantly greater number of patients in the orlistat group maintained at least a 5% weight loss, compared with those in the placebo group.

Patients in the orlistat group regained a mean of 4.6 kg during the 3 years, whereas those in the placebo group regained a mean of 7 kg. The overall weight loss, therefore, was 8.3% of body weight in the orlistat group and 6.4% in the placebo group, said Dr. Richelsen of the department of endocrinology and metabolism, Århus University Hospital, Århus, Denmark.

Waist circumference also was significantly more reduced in the orlistat group, by 7.7 cm, than in the placebo group, by 5.4 cm.

In contrast to findings from other studies, there were no differences between the active treatment group and the placebo group after 3 years on risk factors including insulin, glucose, and lipids. Nonetheless, there was a significantly lower incidence of new-onset diabetes during the study, with 8 cases (5.2%) developing in the orlistat-treated patients, compared with 17 cases (10.9%) in the placebo-treated patients.

—Nancy Walsh



Dr. Yanovski said. Most of the noncompleters were lost to follow-up, and there were very few adverse effects.

"To assess blinding, we asked them if they thought they were receiving calcium or placebo, and somewhat to our surprise, almost two-thirds of both groups thought they were receiving placebo," he said.

At the conclusion of the investigation, body weight had increased by a mean of 0.26 kg in the calcium group and by 0.96 kg in the placebo group, BMI had increased by 0.09 kg/m² in the calcium group and by 0.39 kg/m² in the placebo group, and body fat mass had increased by 0.053 kg in the calcium group and by 0.98

kg in the placebo group, he reported.

None of these differences was statistically significant, he said.

Secondary analyses also found no differences in changes between males and females, among those with low baseline calcium intake, or between those classified as overweight or obese, he said.

"In summary, currently available data do not support the hypothesis that calcium sup-

plementation is effective for avoiding weight gain or assisting in weight reduction," Dr. Yanovski said.

The fact that Dr. Yanovski's investigation looked at calcium supplements instead of dietary calcium may have been a factor in its negative findings.

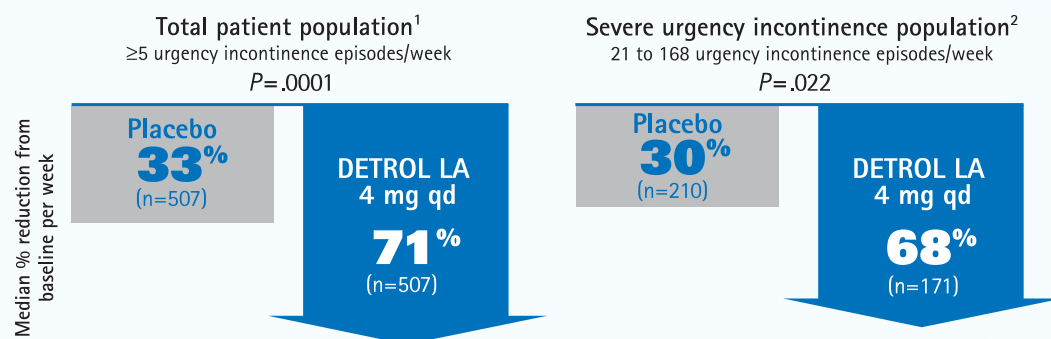
A key proponent of the concept that calcium plays a role in obesity is Michael Zemel, Ph.D., of the University of Tennessee's Nutrition Institute, Knoxville. According to Dr. Zemel, the primary effect of dietary calcium on weight gain "appears to be inhibition of calcitrophic hormone effects on adipocyte energy stor-

age and utilization," (J. Am. Coll. Nutr. 2005;24[6 suppl.]:537S-46S).

Dr. Zemel also has emphasized the importance of dietary foods rather than supplements, explaining that dairy products contain bioactive compounds that may act synergistically with calcium to affect adipocyte metabolism.

The fact that Dr. Yanovski's study looked at calcium supplements instead of dietary calcium may have been a factor in its negative findings, an audience member suggested. Dr. Yanovski added that designing a randomized trial to look at dairy product consumption would be "very difficult to do in humans." ■

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Van Kerrebroeck et al. *Urology*. 2001;57:414-421.¹
A 12-week, placebo-controlled OAB study.
See full study description on next page.

Landis et al. *J Urol*. 2004;171:752-756.²
A post hoc subgroup analysis of Van Kerrebroeck et al.
See full study description on next page.

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*Source: IMS NPA, based on total US prescriptions of antimuscarinics for OAB from October 2001 to December 2005.

[†]Source: IMS Midas Global Sales Audit, Verispan longitudinal data, based on total prescriptions of DETROL and DETROL LA for OAB from April 1998 to December 2005.

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