

Age Alters Bisphosphonates' Effect on Stenosis

BY HEIDI SPLETE

WASHINGTON — Nitrogen-containing bisphosphonates were associated with a significantly decreased prevalence of cardiovascular calcification in women older than 65 years, based on data from 3,710 women who are part of a large, ongoing study.

"Early on in the analysis, we came across a very unexpected finding," said Dr. Sammy Elmariah of Mount Sinai School of Medicine in New York. "The association with bisphosphonate use was dependent on the patient's age."

The data were taken from the Multi-Ethnic Study of Atherosclerosis (MESA), a longitudinal cohort study of 6,814 asymptomatic men and women aged 45-84 years. Overall, the bisphosphonate users were more likely to be older and white. In the current study, Dr. Elmariah and his colleagues examined the impact of bisphosphonates on cardiovascular calcification in women. The results were presented at the Eastern Regional Meeting of the American Federation for Medical Research.

Clinical studies have shown that bisphosphonates have an effect on serum lipids, Dr. Elmariah said. Some experimental data, including data from animal

and the prevalence of cardiovascular calcification in a healthy patient population, Dr. Elmariah said.

Cardiovascular calcification was measured using cardiac CT. Bisphosphonate use was defined as use of either oral or intravenous bisphosphonates at the time of the cardiac CT. The mean age of the NCBP users was 67 years, and the mean age of the nonusers was 62 years. About 60% of the women were white.

After adjustment for variables including age, body mass index, diabetes, hypertension, smoking, race, insurance status, education, and income level, the significance remained, Dr. Elmariah said.

"We get a fairly dramatic reduction in the prevalence of cardiovascular calcification in bisphosphonate users over the age of 65," he added.

When the researchers divided the study population into 10-year age groups,

they saw a gradual reduction in cardiovascular calcification with increasing age.

The study was limited by its cross-sectional design and by the lack of data on the duration of bisphosphonate use. "It's unclear whether this finding is due to true age-related differences in the pathogenesis of cardiovascular calcification or in the effect of bisphosphonates," Dr. Elmariah said. But the results merit additional studies, he said. ■

For patients with type 2 diabetes whose blood glucose is uncontrolled with orals alone

THIS IS NOT JUST A TIRE

IT'S SOMETHING WE TAKE FOR GRANTED UNTIL IT'S WEARING OUT



VITALS

Major Finding: The prevalence of aortic valve ring stenosis was 38% in women aged 65 years and older who took nitrogen-containing bisphosphonates vs. 59% in women who didn't take bisphosphonates.

Data Source: A cross-sectional study of 3,710 women aged 45-84 years.

Disclosures: Dr. Elmariah has received grant support from the New York Academy of Medicine; the National Heart, Lung, and Blood Institute; and GlaxoSmithKline.

models and dialysis patients, suggest that nitrogen-containing bisphosphonates (NCBPs) may limit cardiovascular calcification. Also, the results of one recent study showed that patients on bisphosphonates for osteoporosis had a slower progression of aortic stenosis, he noted.

The prevalence of aortic valve ring stenosis was 38% in women aged 65 years and older who used NCBPs, which was significantly lower than in non-NCBP users of the same age (59%). Aortic valve ring stenosis prevalence also was 38% in women younger than 65 years who used NCBPs; it was significantly lower at 17% among similarly aged non-NCBP users.

Significant patterns also were seen for stenosis of the thoracic aorta and mitral annulus. The relationship between bisphosphonate use and the decrease in cardiovascular calcification in the 65-years-and-older group did not reach statistical significance for the prevalence of aortic valve stenosis and coronary artery stenosis, but the trends were similar.

This study is the first evaluation of the relationship between bisphosphonate use

Treatment plans and glycemic targets should be individualized for each patient.

Important Safety Information About Insulin

Insulin is indicated to help control hyperglycemia in patients with diabetes mellitus. Possible side effects may include blood glucose levels that are too low, injection site reactions, and allergic reactions, including itching and rash. Other medications and supplements could change the way insulin works. Glucose monitoring is recommended for patients with diabetes.

Defined as A1C <7%.

¹Including diet, exercise, and other diabetes medications.

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