CAD Events Less Likely With Normal Vitamin D

BY BRUCE JANCIN

ATLANTA — Vitamin D–deficient patients who reached normal levels had significantly lower cardiovascular event rates than did patients whose levels remained deficient, based on a large prospective observational study.

"Since testing for vitamin D is simple and relatively inexpensive, and therapy is safe and easily administered, patients with low levels should be considered for supplementation," Dr. Tami L. Bair concluded at the meeting.

VITALS

Major Finding: During an average follow-up of 1.2 years, patients whose serum vitamin D levels rose from less than 30 ng/mL to at least 44 ng/mL had the lowest rates of death or new-onset diabetes, CAD, MI, heart failure, depression, and renal failure.

Data Source: An observational follow-up study of 9,491 patients, 78% women, with a mean baseline serum vitamin D of 19.3 ng/mL.

Disclosures: No relevant financial disclosures.

She reported on relative risk for events in 9,491 patients with serum vitamin D levels of 30 ng/mL or less. Their average age was 57 years, 78% were women, and their mean baseline serum vitamin D was 19.3 ng/mL.

During up to 6 years of prospective follow-up, 47% of the group boosted their serum vitamin D levels to normal values above 30 ng/mL. Those patients had significantly lower rates of myocardial infarctions, heart failure, coronary artery disease (CAD), and renal failure. Also, there was a trend for a lower mortality risk during follow-up compared with patients whose vitamin D levels remained deficient.

Significantly higher rates of events were seen in 1,256 patients with serum vitamin D levels of 10-19 ng/mL, compared with 1,670 patients who increased their levels to 44 ng/mL or more, according to Dr. Bair. For CAD, there was a 27% increase in events; for heart failure, a 32% increase; for MI, a 59% increase; for renal failure, a 51% increase. For skeletal disease, there was a 71% increase; for anemia, a 30% increase.

The differences in all-cause mortality fell short of significance. A 42% increase was seen in the group whose vitamin D levels remained at 10-19 ng/mL, noted Dr. Bair of the Intermountain Medical Center Heart Institute in Murray, Utah.

This was not a randomized trial, she cautioned. Investigators do not know how patients increased their serum vitamin D levels. But the results certainly make a case for conducting randomized trials of vitamin D supplementation to boost low serum vitamin D as a means of preventing cardiovascular events, she added.

Event rates were lowest in the 1,670 patients who boosted their serum vitamin D levels to 44 ng/mL or more.

The choice of the 44-ng/mL cutpoint was based on results of a separate 31,289-patient study presented at the meeting by Dr. Bair's colleague. Heidi T. May, Ph.D., concluded that rates of seven of nine adverse outcomes were significantly lower in the 3,387 study participants whose baseline serum vitamin D level was at least 44 ng/mL.

During an average follow-up of 1.2 years, patients with a serum vitamin D of 44 ng/mL or more had the lowest rates of death or new-onset diabetes, CAD, MI, heart failure, depression, and renal failure. However, patients with optimal vitamin D levels did not have lower rates of new-onset hypertension or cerebrovascular events compared with patients with low or very low vitamin D levels. ■

Vitamin D Deficiency Common in MI

Vitamin D deficiency and insufficiency are "extraordinarily prevalent" in patients presenting with acute myocardial infarction, according to a national prospective study.

Of 239 patients admitted for acute MI at 20 U.S. hospitals, 75% were vitamin D deficient as commonly defined by a serum level of 20 ng/mL or less.

Another 21% had insufficient vitamin D levels, meaning more than 20 but less than 30 ng/mL.

In other words, a mere 4% of MI patients in this national sample had a normal serum vitamin D level, Dr. John H. Lee said at the annual meeting of the American College of Cardiology.

"Screening and treatment should be considered to correct this common vitamin deficiency and investigated as a means of further improving MI patients' cardiovascular risk factors and outcomes," added Dr. Lee of the Ochsner Clinic Foundation, New Orleans.

Patients with vitamin D deficiency were significantly more likely to be diabetic, with a prevalence of 31% compared with 17% of those with normal or insufficient vitamin D. Patients who were vitamin D deficient also were more likely to be uninsured (24% vs. 10%), to be nonwhite (29% vs. 15%), to be smokers (42% vs. 25%), to lack social support (18% vs. 5%), and to have a low level of physical activity (79% vs. 57%).

Dr. Lee disclosed having no financial relationships relevant to this study.

Dabigatran Bests Warfarin in Low-Risk A Fib Patients

BY MITCHEL L. ZOLER

ATLANTA — Treatment with the investigational direct thrombin inhibitor dabigatran proved safe and effective across the entire spectrum of risk in patients with atrial fibrillation in a secondary analysis of data from the drug's pivotal trial with more than 18,000 patients.

Finding that the lower dose of dabigatran tested cut the stroke and systemic embolization rate as well as warfarin while leading to significantly fewer major bleeds than warfarin in low-risk atrial fibrillation patients potentially opens the door to offering low-risk patients a better anticoagulant option than aspirin, Dr. Jonas Oldgren said at the annual meeting of the American College of Cardiology.

'Today, low-risk patients are treated with no anticoagulant or only with aspirin, which is clearly less effective.'

DR. OLDGREN

"Today, low-risk patients are treated with no anticoagulant or only with aspirin, which is clearly less effective. The so-called low-risk patients really need anticoagulant treatment, because low-risk is not no-risk. They have a 2%-3% risk of stroke per year, or about a 25% risk over 10 years. We don't treat them with warfarin because of the bleeding risk, but dabigatran is a much safer drug," said Dr. Oldgren, head of the coronary care unit at Uppsala (Sweden) University, and a co-investigator in the Randomized Evaluation of Long Term Anticoagulant Therapy (RE-LY) trial.

The new analysis assessed the performance of the three treatments tested in three patient subgroups divided based on their CHADS2 scores (see table). For the analysis, Dr. Oldgren divided the patients into three roughly equal-sized groups by their scores: 5,775 with a score of 0 or 1; 6,455 patients with a score of 2; and 5,882 patients with a score of 3-6. Among the warfarin-treated patients the time in the target international normalized ratio range was similar in all three subgroups, about two-thirds of the time in the study.

For the primary efficacy end point of preventing stroke and systemic embolism the higher dabigatran dosage surpassed warfarin in all three CHADS2 subgroups, while the lower dabigatran dosage showed noninferiority across all three risk subgroups. For the primary safety end point of major bleeds, the lower dabigatran dosage performed better than warfarin in all three risk subgroups while the higher dabigatran dosage showed noninferiority.

Dr. Oldgren has received consultant fees, lecture fees, and grant support from Boehringer Ingelheim, and lecture fees from Astra Zeneca. Boehringer Ingelheim sponsored the trial. ■

Annual Incidence Outcomes Across Atrial Fibrillation Risk Subgroups

Outcome	CHADS2 score	Incidence, % (dabigatran 110 mg b.i.d.)	Incidence, % (dabigatran 150 mg b.i.d.)	Incidence, % (warfarin)
Stroke or systemic embolism	0-1	1.06	0.65	1.05
	2	1.43	0.84*	1.38
	3-6	2.12	1.88*	2.68
Major bleeds	0-1	1.81*	1.98	2.70
	2	2.71	2.80	3.14
	3-6	3.82	4.84	4.28
Intracranial bleeds	0-1	0.20*	0.20*	0.51
	2	0.22*	0.24*	0.64
	3-6	0.26*	0.49*	1.07
Net clinical benefit	0-1	4.86	4.25*	5.32
	2	7.84	6.40*	7.66
	3-6	8.81	10.19	9.30

*Statistically significantly different from warfarin-treated patients
Note: Based on 18,113 patients with atrial fibrillation enrolled in the RE-LY trial.
Source: Dr. Oldgren