# Vit. D Deficiency Raises Heart Failure Death Risk

**VITALS**

**Major Finding:** Adults with vitamin D deficiency were 3.4 times more likely to die from heart failure, compared with those who had normal levels of vitamin D. They were also 1.45 times as likely to die prematurely, compared with those who had normal levels of vitamin D.

**Data Source:** A total of 13,131 men and women aged 35 and older enrolled in the prospective cohort of the NHANES III from 1988 to 1994.

**Disclosures:** The researchers had no relevant financial disclosures to make.

BY DOUG BRUNK

FROM THE ANNUAL MEETING OF THE HEART FAILURE SOCIETY OF AMERICA

SAN DIEGO — Adults with decreased levels of serum 25-hydroxyvitamin D are significantly more likely to die from heart failure or die prematurely, compared with adults who have normal serum levels of vitamin D, results from a large analysis found.

"This may be additional justification for a study of vitamin D supplementation in appropriate patients to determine if there is causality and if this is a treatable condition," Dr. Howard J. Eisen said at the meeting.

In a study led by his associate, Dr. Longjian Liu of the department of epidemiology and biostatistics at Drexel University School of Public Health, Philadelphia , the researchers reviewed data from 13,131 individuals (6,130 men and 7,001 women) aged 35 and older who were enrolled in the prospective cohort of the Third National Health and Nutrition Examination Survey (NHANES III) from

1988 to 1994 and followed for mortality through the year 2000. At baseline, a radioimmunoassay kit was used to measure the serum vitamin D level of each participant.

Vitamin D deficiency was defined as a serum level below 20 ng/mL, and vitamin D insufficiency was defined as a serum level of 20-29 ng/mL. Normal levels were defined as 30 ng/mL or greater, said Dr. Eisen of the department of medicine at Drexel University, Philadelphia.

Premature death was defined as death before the age of 75. The researchers used Cox proportional hazards regression analysis to examine the association between serum levels of vitamin D and mortality risk.

Dr. Eisen reported that more than 60% of African American study participants were vitamin D deficient, compared with 20% of whites and about 40% of Hispanics. "This might be yet another explanation for the high prevalence of heart failure [among African Americans]," he said.

During an average follow-up period of 8 years, there were 3,266 deaths among the 13,131 participants (24.9%), including 101 heart failure deaths (0.8%). Of the total deaths, there were 1,066 premature deaths (33%). Death from cardiovascular disease accounted for as many as 34% of the total premature deaths.

The rate of vitamin D deficiency among heart failure deaths was 37%, compared with 26% among non–heart failure–related deaths, a difference that was statistically significant.

After the researchers adjusted for age, gender, race, and baseline medical conditions, study participants with vitamin D deficiency were 3.4 times more likely to die from heart failure, compared with those who had normal vitamin D levels, while those with vitamin D insufficiency were 2 times more likely to die from heart failure, compared with those who had normal vitamin D levels.

In addition, study participants with vitamin D deficiency were 1.45 times more likely to die prematurely, compared with those who had normal vitamin D levels, while those with vitamin D insufficiency were 1.14 times more likely to die prematurely, compared with those who had normal vitamin D levels. ■