Low Bone Density Linked to Myocardial Ischemia

BY MITCHEL L. ZOLER Philadelphia Bureau

CHICAGO — Low bone-mineral density was associated with exercise-induced myocardial ischemia in a retrospective analysis of more than 1,000 patients.

These are the first study results to show a link between bone mineral density (BMD) and exercise-induced ischemia using exercise echocardiography, Dr. Aaron M. From and his associates said in a poster presented at the annual scientific sessions of the American Heart Association.

Results from previous studies had linked low BMD and an increased risk of stroke, atherosclerosis, and cardiovascular death, said Dr. From, a physician at the Mayo Clinic in Rochester, Minn.

The analysis included all patients who underwent dual energy x-ray absorptiometry of the femoral neck at the Mayo Clinic during August 1998–October 2003 who also had an exercise echocardiography examination soon after the bone scan. The researchers identified 1,142 patients who fulfilled these criteria. All of the patients were referred for both studies by their physicians.

The group included 643 patients with low BMD; 126 with osteoporosis and 517 with osteopenia. The remaining 499 patients had BMDs in the normal range. The most common reason for the exercise echo examination was chest pain/dyspnea, in 57% of patients; 6% had known coronary artery disease. The analysis showed that patients with the lowest BMD (a T score of -4 to -3) had the shortest exercise duration, 5.8 minutes, whereas patients with the highest T scores (+1 to +2) had the longest exercise duration, 8.9 minutes.

In a multivariate analysis that controlled for baseline clinical and demographic differences, the risk of having exercise-induced ischemia rose by 22% for every onepoint decrease in T score (representing one standard-deviation decrease in T score) a statistically significant difference.

Screen Stroke Offspring Early For Hypertension

TUCSON, ARIZ. — Patients with a parental history of stroke should be screened early for raised blood pressure, Dr. Nigel Hart said at the annual meeting of the North American Primary Care Research Group.

The recommendation was drawn from Dr. Hart's Stroke Offspring Study in which systolic and diastolic blood pressures were significantly higher in patients with a parental history of stroke, compared with matched controls. Stroke offspring also consumed more alcohol than their paired controls but did not differ significantly in body mass index, lipids, diabetes mellitus, diet, smoking status, or exercise.

"These results suggest higher blood pressure in stroke offspring may contribute to their increased risk of stroke," said Dr. Hart of Queen's University, in Belfast, Ireland.

Questionnaires were sent to randomly selected individuals, aged 40-64 years, from 11 general practices representing 6% of the population of Northern Ireland. From the returns, those with a parental history of stroke (cases) were matched on age, gender, and socioeconomic status to those with no parental history of stroke (controls).

Matched pairs answered questions about smoking, alcohol, and medical history, and underwent a clinical evaluation. A total of 458 individuals were screened, and complete data were available on 398 individuals or 199 case-control pairs.

Systolic and diastolic blood pressures were significantly higher in cases than in controls; (systolic 146.2 mm Hg vs. 140.6 mm Hg) and (diastolic 87.7 mm Hg vs. 85.0 mm Hg). There were no significant differences between groups in total cholesterol, homosysteine levels, smoking status, or presence of diabetes, they reported.

The only variable that was statistically different between groups was alcohol consumption, with cases drinking 3.7 more alcohol units per week than controls (13.8 U vs. 10.1 U). A pint of beer is equal to 2 units, while a glass of wine or hard liquor is equal to 1 unit. The mean paired difference in diastolic (2.4 mm Hg) and systolic (5.5 mm Hg) blood pressures was statistically significant between groups even after adjusting for alcohol consumption using a stepwise logistic analysis, he said. —**Patrice Wendling**



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