Calcium Supplements May Increase Risk of MI in Postmenopausal Women

Calcium supplements may increase the risk of cardiovascular events, namely myocardial infarction (MI), in postmenopausal women, according to a study in the *BMJ.*

Ian R. Reid, MD, of the University of Auckland, New Zealand, and colleagues reassessed data from the Women’s Health Initiative Calcium/Vitamin D Supplementation Study, a 7-year study of calcium and vitamin D supplements in 36,282 postmenopausal women. In the original study, the investigators concluded that participants who received 1,000 mg of calcium and 400 international units of vitamin D per day were not at an increased risk of heart disease compared with those who received placebo.

However, more than half of the women in the study were taking their own calcium supplements in addition to those prescribed for the study, which may have affected the study results. Therefore, Dr. Reid and colleagues analyzed a subgroup of 16,718 women who were not taking calcium supplements before entering the trial.

Overall, women who were randomized to receive calcium and vitamin D supplements had a 13% to 22% increased risk of cardiovascular events, particularly MI, compared with those who were not taking the supplements. An additional meta-analysis revealed that patients taking calcium supplements were at an increased risk of cardiovascular events whether or not they also took vitamin D. There was also a mild increase in stroke risk among women taking the supplements, the researchers concluded.

“Calcium supplementation with or without vitamin D modestly increased the risk of cardiovascular events, especially MI, a finding obscured in the study by the widespread use of personal calcium supplements,” the study authors wrote. “A reassessment of the role of calcium supplements in osteoporosis management is warranted.”

Mononucleosis, Low Sun Exposure May Raise Risk of Multiple Sclerosis

Infectious mononucleosis coupled with low levels of ultraviolet B radiation could increase one’s risk of developing multiple sclerosis (MS), according to a study in *Neurology.*

George C. Ebers, MD, of the University of Oxford, and colleagues examined hospital admissions in England between 1998 and 2005 to determine the incidences of MS and infectious mononucleosis. The investigators identified 56,681 cases of MS and 14,621 cases of infectious mononucleosis. Data from the US National Aeronautics and Space Administration were used to determine sunlight intensity in various regions throughout England. The researchers concluded that sun exposure and infectious mononucleosis combined appeared to explain 72% of the variation of levels of MS in England. Exposure to sunlight alone seemed to explain 61% of the variance.

“The effect of [ultraviolet B radiation] on generating vitamin D seems the most likely candidate for explaining its relationship with MS,” the researchers wrote. “There is a pressing need to investigate the role of vitamin D and the [Epstein-Barr virus] and how they might interact to influence MS risk to identify potential prevention strategies.”

Some Patients With Type 1 Diabetes May Avoid Complications

Some patients with type 1 diabetes may have a natural mechanism that protects them from the long-term complications associated with the disease, according to a study in *Diabetes Care.*

The Joslin 50-Year Medalist Study, conducted by Jennifer K. Sun, MD, MPH, and colleagues from the Joslin Diabetes Center in Boston, included 351 patients who have lived with type 1 diabetes for 50 years or more. Retinopathy, neuropathy, nephropathy, and cardiovascular disease were assessed in relation to hemoglobin A1C, lipids, and advanced glycation end products. A retrospective chart review provided longitudinal ophthalmic data for a subgroup.

Overall, 42.6% of patients were free of proliferative diabetic retinopathy, 86.9% were free of nephropathy, 39.4%...
were free of neuropathy, and 51.5% were free of cardiovascular disease. Current and longitudinal glycemic control, however, was unrelated to complications. Patients with high plasma concentrations of two advanced glycation end products, carboxethyl-lysine and pentosidine, were 7.2-fold more likely to have any complication than those with low levels. Furthermore, of the patients without proliferative diabetic retinopathy and whose retinopathy did not worsen over the first 17 years of follow-up, 96% did not experience worsening thereafter.

“The Medalist population is likely enriched for protective factors against complications,” the authors concluded. “These factors might prove useful to the general population with diabetes if they can be used to induce protection against long-term complications.”


Prenatal Pesticide Exposure Linked to Lower IQ

Babies whose mothers were exposed to organophosphate pesticides during pregnancy may have lower IQs later in childhood, according to three studies in *Environmental Health Perspectives.*

In one of the studies, researchers at the University of California Berkeley School of Public Health obtained data from an agricultural community of predominantly Latino farm workers. Exposure to organophosphate pesticides was assessed by measuring urinary dialkyl phosphate metabolites of the pesticides collected during pregnancy and childhood. A total of 329 children underwent cognitive testing at age 7 years. Overall, increasing maternal concentrations of the metabolites during pregnancy were associated with poorer scores for working memory, processing speed, verbal comprehension, perceptual reasoning, and full-scale IQ. Children with the highest maternal concentrations of dialkyl phosphate metabolites had a mean deficit of seven IQ points. Concentrations measured in the children after they were born, however, were not consistently associated with cognitive scores.

In a second study, researchers at Columbia University’s Mailman School of Public Health in New York examined the markers for exposure to the organophosphate chlorpyrifos in blood samples taken from umbilical cords in 265 inner-city mothers and infants. At age 7 years, the children’s full-scale IQs were measured using the Wechsler Intelligence Scales for Children. On average, for each 4.61 pg/g of increase in exposure, the children’s full-scale IQ declined by 1.4%, and their working memory declined by 2.8%.

In the third study, researchers at the Gillings School of Public Health examined biomarkers of organophosphate exposure in 404 mothers and infants, about 80% of whom were black or Hispanic. Urinary organophosphate metabolite levels were measured in the third trimester of pregnancy, and prenatal maternal blood was analyzed for the gene that codes for paraoxonase 1, a key enzyme in the metabolism of organophosphates. The children underwent neurodevelopmental assessments at the ages of 12 months, 24 months, and 6 to 9 years. Overall, increasing prenatal concentrations of dialkyl phosphate metabolites were associated with a decrement in mental development, beginning at 12 months and continuing through childhood. This association was strongest in mothers with the paraoxonase 1 Q192R QQ genotype.


Estrogen Therapy May Lower Breast Cancer Risk

Among postmenopausal women with prior hysterectomy, estrogen-only therapy was associated with a decreased risk of breast cancer, according to a study in the *Journal of the American Medical Association.*

Andrea Z. LaCroix, PhD, and colleagues from the University of Washington obtained data from 10,739 postmenopausal women with prior hysterectomies who were enrolled in the Women’s Health Initiative. Participants were randomized to receive 0.625 mg/d of conjugated equine estrogen (CEE) or placebo. Follow-up continued after the planned trial’s completion date among 7,645 surviving participants (78%).

The postintervention risk (annualized rate) for coronary heart disease among women receiving CEE was 0.64% compared with 0.67% in the placebo group; 0.26% versus 0.34%, respectively, for breast cancer; and 1.47% versus 1.48%, respectively, for total mortality. The risk of stroke was no longer elevated during follow-up and was 0.36% in the CEE group and 0.41% in the placebo group. The risk of deep vein thrombosis was lower at 0.17% versus 0.27%, respectively, and the risk of hip fracture did not differ significantly between the two groups (0.36% vs 0.28%, respectively).

Over the entire follow-up period, a lower incidence of breast cancer in the CEE group persisted and was 0.27% compared with 0.35% in the placebo group. Overall, health outcomes were more favorable for younger women compared with older women for coronary heart
Bausch + Lomb, Technolas Announce Agreement to Distribute Femtosecond Laser

Bausch + Lomb (Rochester, NY) and Technolas Perfect Vision GmbH (Munich, Germany) announced an agreement in principle to globally distribute the first femtosecond laser capable of performing both cataract and refractive procedures on one platform. Financial terms were not disclosed.

Under the arrangement, Technolas will develop and manufacture its femtosecond cataract and refractive laser system from its facilities in Munich, and maintain the product through its current worldwide service organization, according to Bausch + Lomb. Technolas will continue to commercialize the refractive portfolio.

In an interview with Eyetube.net, Robert E. Grant, CEO and president of Bausch + Lomb Surgical, said the key selling point for the company’s acquiring the rights to distribute the platform was the laser’s ability to perform both cataract and refractive procedures.

“We’ve done research in this industry and looked at the impact that femtosecond will have on the market,” Mr. Grant said. “We believe strongly that this is going to significantly transform the industry and be much better for patients, and it’s going to help us move the industry toward 20/20 vision.”

He added, “The industry has changed a lot over the past 20 years. With the advent of excimer laser technology, the whole refractive and cataract specialties really split apart, and the interesting thing coming back [to San Diego] in 2011, is what’s going to bring the industry and these subspecialties back together again is actually the advent of femtosecond technology.”

Technolas was established in 2009 through a joint venture between Bausch + Lomb and 20/10 Perfect Vision AG to develop advanced refractive and cataract technologies. The company specializes in both femtosecond and excimer laser businesses, with current innovations focused on laser cataract surgery and the correction of presbyopia. Commercialization of the laser platform is expected to begin in the second half of 2011. Technolas previously announced that it filed for 510(k) clearance in the United States.

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