

# Joint Replacement Not Linked to Atherosclerosis

BY HEIDI SPLETE

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Adults who underwent total joint replacement of the hip or knee were not significantly more likely to have atherosclerosis, based on data from 5,170 adults with an average age of 76 years.

However, women who had a total joint replacement and hand os-

teoarthritis were significantly more likely to have atherosclerosis.

Dr. Helgi Jonsson of the University of Iceland in Reykjavik and colleagues used total joint replacement (TJR) as an indicator of severe osteoarthritis (Ann. Rheum. Dis. 2011 [doi:10.1136/ard.2010.144980]). The study population included 2,195 men and 2,975 women; 539 patients had total joint replacement, including 316 with

total hip replacements (THR), 223 with total knee replacements (TKR), and 31 with both hip and knee replacements.

Overall, women who had a joint replacement showed a nonsignificant trend toward increased coronary calcifications and carotid plaques, but no such associations were seen in men. "Apart from marginally increased aortic calcium in women with TKR, there were no statistical differences in those with and with-

out TKR and THR," the researchers noted.

But the researchers saw a significant upward trend in coronary calcifications among women with hand osteoarthritis (HOA). The difference between the average value of women without either TJR or HOA and the women with both TJR and HOA was significant – approximately 10% – for three markers of atherosclerosis: coronary calcium, periventricular white matter hyperintensities, and carotid plaque.

The data were taken from a subset of older patients in the AGES-Reykjavik Study, a population-based study conducted in Iceland. The results support findings from previous studies suggesting a link between osteoarthritis and atherosclerosis in women, the researchers noted. ■



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## Focus on Early Intervention

It is important to study the relationships between osteoarthritis and cardiovascular health because both are chronic low-grade inflammatory diseases. The lack of association between severe osteoarthritis and atherosclerosis in the majority of patients in this study is not surprising. We see the same thing with osteoporosis, another disease of aging in which there is low-grade inflammation, which causes a disease over time.

Genetics and diet are some factors that might affect the association between hand OA and atherosclerosis in women, which might have been factors in this study.

There are various challenges to studying the relationship between osteoarthritis and atherosclerosis.

For example, it takes time to see the clinical disease and, because of that, we need to use animal models and try to understand both the disease mechanism and how we might intervene.

When planning future studies, researchers in this area need to talk to each other and design studies to intervene before diseases become clinically apparent.

DR. NANCY LANE is a professor at the University of California, Davis, and director of the UC Davis Center for Healthy Aging. Her specialties include internal medicine, rheumatology, and allergy and clinical immunology. She said she had no relevant financial disclosures.