

Asymptomatic Changes in the Carotid Arteries of Patients with Rheumatoid Arthritis

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The full report is titled "Preclinical Carotid Atherosclerosis in Patients with Rheumatoid Arthritis." It is in the 21 February 2006 issue of *Annals of Internal Medicine* (volume 144, pages 249-256). The authors are M.J. Roman, E. Moeller, A. Davis, S.A. Paget, M.K. Crow, M.D. Lockshin, L. Sammaritano, R.B. Devereux, J.E. Schwartz, D.M. Levine, and J.E. Salmon.

What is the problem and what is known about it so far?

Rheumatoid arthritis (RA) is a chronic disease in which inflammation leads to painful, swollen, and deformed joints. It usually affects the small joints of the hands and feet but may develop in any joint. People with RA usually have flares of joint pain and stiffness that last for weeks or months. Between flares, people with RA can be relatively free of symptoms. There is no cure for RA. Repeated attacks eventually destroy joints, and about 1 in 10 people with RA becomes severely disabled from joint destruction. Treatment reduces symptoms and joint damage. Several powerful drugs, known as disease-modifying antirheumatic drugs, reduce the risk for permanent joint damage.

People with RA also have a higher risk for heart attack and stroke than people without the disease. The relationship of this risk to traditional cardiovascular risk factors (high blood pressure, diabetes, and smoking) and to the medications used to treat RA is not well-defined. *Atherosclerosis* is the term for the changes in blood vessels that lead to such complications as heart attack and stroke. The identification of factors associated with early atherosclerosis in people with RA might lead to a better understanding of cardiovascular disease in this condition.

Why did the researchers do this particular study?

To identify how many people with RA also have atherosclerosis but do not yet have symptoms of cardiovascular disease.

Who was studied?

98 patients with RA who did not have symptoms of cardiovascular disease and 98 persons without RA who were participating in studies of high blood pressure. Some of the participants in the second group had high blood pressure, but many did not.

How was the study done?

The researchers collected information from all of the patients regarding their cardiovascular risk factors (blood pressure, diabetes, smoking, serum cholesterol levels). They also obtained information from the patients with RA about the severity of their condition and what types of treatment they had received. The researchers examined ultrasonograms to determine how many patients from each group had atherosclerotic changes in the carotid arteries, which are the large blood vessels in either side of the neck that supply blood to the brain.

What did the researchers find?

The researchers found carotid artery atherosclerosis in 44% of the patients with RA and only 15% of the participants who did not have RA. This large difference was particularly interesting because the patients with RA had more favorable cardiovascular risk factors than the comparison group.

What were the limitations of the study?

This study looked only at carotid artery changes and did not conduct follow-up evaluations of patients to see whether they actually developed problems such as heart attack or stroke.

What are the implications of the study?

More patients with RA have atherosclerotic changes of the carotid artery than do patients without RA who are of similar ages. Traditional cardiovascular risk factors do not seem to explain the increased risk for atherosclerosis in patients with RA. This suggests that the general inflammation seen in patients with RA may lead to atherosclerosis.

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