

CARDIAC RISK UPDATE

MI Risk Increased 1 Year After Arthritis Diagnosis

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COPENHAGEN — The increased risk for myocardial infarction in patients with rheumatoid arthritis starts to become apparent a year after rheumatoid arthritis is first diagnosed, based on a case-control study with more than 45,000 people.

"The increased risk of myocardial infarction [MI] is evident earlier in the course of rheumatoid arthritis [RA] than previously thought," Marie Gunnarsson said at the annual European Congress of Rheumatology. "The finding underscores the need for early heart disease prevention measures in this population," added Ms. Gunnarsson, an epidemiology researcher in the Institute of Environmental Medicine at the Karolinska Institute in Stockholm.

The study included 7,653 patients diagnosed with RA from 1996 to early 2007 and entered into the Swedish RA register. Each of these patients was newly diagnosed within 18 months from



when RA symptoms first appeared. Each patient was matched by sex, age, and residential area with five people from the general Swedish population. Information on hospital discharges and deaths came from Swedish national registries. The average age of the RA patients and matched comparators was 57 years, and 71% were women.

During an average follow-up of almost 5 years in both groups, patients with rheumatoid arthritis faced a 70% increased risk for being hospitalized for an acute MI during the second through fourth year following their RA diagnosis, compared with controls, a statistically significant difference, Ms. Gunnarsson reported. Hospitalizations for MI also

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were 70% higher among patients with RA during years 5-10 following their arthritis. (See box.) In contrast, during the first year following RA diagnosis the patients also had an increased rate of MI hospitalizations compared with the controls in the study, but the difference was not large enough to be statistically significant.

Relative Risk for Myocardial Infarction in RA Patients

	Overall relative risk	Risk 0-11 months after RA diagnosis	Risk 1-4 years after RA diagnosis	Risk 5-10 years after RA diagnosis
Hospitalization for acute myocardial infarction	1.6*	1.4	1.7*	1.7*
Death from myocardial infarction	1.1	1.3	1.0	1.1
Death from any cause	1.0	0.7	1.0	1.1*

*Statistically significant difference in RA patients, compared with controls

Note: Findings from a study of 7,653 patients diagnosed with rheumatoid arthritis and 37,837 matched controls without rheumatoid arthritis.

Source: Ms. Gunnarsson

The analysis showed no significant differences in the rates of MI death between the RA patients and controls during any follow-up period. The rate of death from any cause was also not significantly different between the two groups during most follow-up periods. The exception was during the period 5-10 years following RA diagnosis, when the RA patients had a 10% increased rate compared with the controls, a difference on the cusp of statistical significance. The pattern of MI hospitalizations in the two groups was similar regardless of whether RA was diagnosed in 1996, early 2007, or in be-

tween. Another analysis looked at the interaction of rheumatoid factor and MI hospitalizations. RA patients positive for rheumatoid factor had a slightly higher hospitalization rate than all RA patients, peaking with a rate two-fold the control rate at 5-10 years following RA diagnosis. RA patients negative for rheumatoid factor also showed higher rates of MI hospitalizations than controls, but the increase was not as high as in the rheumatoid factor-positive patients.

The study was funded in part by Astra Zeneca. Ms. Gunnarsson and her associates had no other disclosures. ■

RA Severity, Duration Predict CVD Development

COPENHAGEN — Rheumatoid arthritis patients with higher disease severity and longer disease duration had the highest risk for developing cardiovascular disease during 15 years of follow-up in a small study.

Rheumatoid arthritis (RA) patients with a higher level of inflammation, as indicated by elevated serum levels of C-reactive protein (CRP) early in the course of their RA, had the greatest risk for developing arterial stiffness during follow-up, Dr. Sella Aarrestad Provan said at the annual European Congress of Rheumatology.

Because the study enrolled RA patients who had been diagnosed within the prior 4 years, the findings "support the importance of early, active disease management in patients with RA," said Dr. Provan of the department of rheumatology at Diakonhjemmet Hospital in Oslo. The study involved 238 patients enrolled in the EURIDISS (European Research on Incapacitating Disease and Social Support) cohort in 1992. Average age at enrollment was 52 years, and three-quarters were women. Dr. Provan conducted the research as part of her ongoing doctoral studies.

At 15 years after enrollment, 107 of these patients underwent a follow-up

examination. During follow-up, 44 of the 107 self-reported having cardiovascular disease. Also at 15 years, 102 patients had an applanation tonometry assessment that determined their central arterial stiffness. The analysis correlated these two end points with patients' clinical characteristics at entry.

Patients who developed cardiovascular disease had significantly longer disease duration at entry than did patients who remained free of cardiovascular disease, although none of the patients entered the study having had RA for more than 4 years. Other significant correlates of cardiovascular disease risk were a high CRP level at entry, a high score on the Stanford HAQ (Health Assessment Questionnaire), and a high score on the Ritchie index. In a logistic regression model that also controlled for age, sex, diabetes, and smoking status, the only entry measures that remained significant were disease duration and HAQ score, she said.

The only significant baseline predictor of high central arterial stiffness (augmentation index) at 15 years was a high CRP level.

Dr. Provan said that she and her associates had no financial relationships to disclose. ■

Serum Cholesterol Drops Before Arthritis Diagnosis

COPENHAGEN — Patients who develop rheumatoid arthritis undergo an unexplained drop in their serum cholesterol level during the years immediately preceding their diagnosis, based on a study of more than 500 patients.

Dr. Elena Myasoedova said at the annual European Congress of Rheumatology that serum levels of LDL cholesterol fell before—as well as following—RA diagnosis, whereas serum levels of HDL cholesterol rose both before and after RA diagnosis.

This overall pattern of lipid changes resulting in a less-atherogenic profile in RA patients is a surprise, as it's been clearly documented in results from several studies that RA increases the risk for both atherosclerosis and cardiovascular disease.

The study involved 577 residents of Olmsted County, Minn., who were at least 18 years old and were diagnosed with RA during 1988-2008.

During the 5 years before diagnosis, their serum levels of both LDL cholesterol and total cholesterol fell significantly, by an average of 24 mg/dL for LDL cholesterol and an average of 23 mg/dL for total cholesterol. During the same period, HDL cholesterol levels rose by 3 mg/dL, said Dr. Myasoedova, who did her research while she was a Fulbright scholar at the Mayo Clinic in Rochester, Minn.

In the 5 years after RA diagnosis, their to-

tal and LDL cholesterol levels underwent a smaller decline, with LDL cholesterol levels dropping by an average of another 8 mg/dL. HDL cholesterol increased by an additional 5 mg/dL after the diagnosis.

To better assess the relationship of these changes to RA, the researchers ran a similar analysis on 540 control residents of Olmsted County who were matched to the RA patients based on their sex, age during the calendar year of RA diagnosis in the cases, and length of their medical history in Olmsted County and with the Mayo Clinic. The average age of the RA patients and controls was 57 years.

The comparison showed that people who were never diagnosed with RA also had a drop in their total and LDL cholesterol levels over the same period, likely because of an increased prevalence of treatment for hypercholesterolemia in the United States during 1988-2008, Dr. Myasoedova said. The extent of the cholesterol reduction was substantially steeper among those who eventually developed RA.

Treatment with lipid-lowering drugs of any kind, treatment specifically with a statin, and body mass index did not seem to be factors, as these parameters were similar in both RA patients and controls.

The study was funded in part with a grant from Roche Laboratories, Dr. Myasoedova said. ■