

Framingham Risk Score Falls Short in RA Patients

BY MITCHEL L. ZOLER

PHILADELPHIA — The Framingham risk score does a poor job of estimating future risk for cardiovascular events in patients with rheumatoid arthritis, according to a review of 550 unselected patients drawn from the general population.

Results from a second study reported at the annual meeting of the American College of Rheumatology suggested that adding three more risk markers (carotid disease assessment with ultrasound, erythrocyte sedimentation rate, and cumulative steroid dose) to the standard Framingham risk score (FRS) could significantly improve prognostic accuracy for coronary disease in patients with RA. And findings from a third study presented at the meeting indicated that treatment with methotrexate is an effective way to cut coronary disease risk in RA patients.

To assess the prognostic value of the FRS, Cynthia S. Crowson and her associates at the Mayo Clinic in Rochester, Minn., used data collected for the Rochester Epidemiology Project from residents of Olmsted County, Minn. They included 550 people who presented during 1988-2008 with incident RA that matched the 1987 RA criteria of the American College of Rheumatology and who also had no history of cardiovascular disease at the time of their initial RA diagnosis. The researchers calculated an FRS for each of these patients based on their medical records and using a revised FRS (introduced in 2008) that predicted risk for cardiovascular disease events including stroke and peripheral artery disease as well as coronary disease (*Circulation* 2008;117:743-53).

The Mayo researchers then compared the predicted rate of cardiovascular disease events against the actual rate observed during the first 10 years following RA diagnosis. The study group included 491 RA patients who

were aged 30-74 years, and 59 others who were aged 75 years or older. The FRS is designed for application to adults younger than 75.

Among the 341 women aged 30-74 years, the average predicted event rate was 5%, and the actual observed rate was 11%. Among the 150 men in this age range, the predicted rate was 12% and the observed rate was 26%, reported Ms. Crowson in a poster. She is a biostatistician at the Mayo Clinic. The researchers used a regression model to calculate a standard incidence ratio, in which the ratio of actual to expected events was 79% in women and 56% in men. Both differences were statistically significant. Further analysis showed that the largest differences between observed and expected rates were in women aged 55 years or older and in men aged 45 or older.

Although the FRS is not designed for use on people older than 74 years, Ms. Crowson and her associates applied the same analysis to 59 RA patients in this age group. The results again showed a significant excess of observed events over expected events. In women, the observed event rate was 57%, compared with an expected 14% rate. In men, the observed rate was 87%, compared with an expected rate of 37%. The findings “underscore the need for [a more] accurate tool to predict the risk of cardiovascular disease in RA patients.”

One way to improve cardiovascular risk assessment in RA patients may be to add additional risk factors to the FRS, an idea explored in a poster presented by Dr. Inmaculada del Rincon, a rheumatologist at the University of Texas Health Sciences Center in San Antonio, and her associates. They compared the correlation between standard FRS assessment and an enhanced as-

essment model for predicting the risk of acute coronary syndrome events in 599 RA patients. None of the patients in the study had a history of cardiovascular disease at the time the study began. During an average 5-year follow-up, 66 patients had acute coronary syndrome events.

To enhance the FRS predictive power, they added measures of carotid plaque and intima-media thickness by carotid ultrasonography, erythrocyte sedimentation rate, and cumulative glucocorticoid dose. The analysis showed that the standard FRS accounted for 70% of the events observed in the patients. The three additional risk markers boosted this rate to 76%, a statistically significant improvement, reported Dr. del Rincon and her associates in their poster.

A third poster reviewed the ability of methotrexate to reduce cardiovascular risk in RA patients. Dr. Janice Gupta, a rheumatologist at Tufts Medical Center in Boston, and her associates reviewed the medical literature for studies that compared the ability of methotrexate to lower cardiovascular events against other RA treatments. They identified six studies published during 2002-2007 that made this comparison. The studies involved a total of about 162,000 RA patients. The results showed a consistent pattern of reduced cardiovascular events in the patients who received methotrexate. The event risk was generally reduced by 15%-20%, compared with other RA treatments; the researchers did not calculate an overall summary risk-reduction rate. ■

Disclosures: All of the study investigators and their associates reported having no relevant financial relationships.

Vaccination Rates Lag in Rheumatic Disease Patients

BY MITCHEL L. ZOLER

PHILADELPHIA — Vaccination rates in patients with rheumatoid arthritis and other rheumatic diseases continued to lag behind recommendations in two reports at the annual meeting of the American College of Rheumatology.

Although the Centers for Disease Control and Prevention and other infectious disease organizations recommend annual influenza vaccination and current pneumonia vaccination for all adults with chronic illness, including rheumatoid arthritis and other rheumatic diseases, both studies found vaccination rates of roughly 50%.

One report, by researchers from the CDC, used data collected in 2007 by the Behavioral Risk Factor Surveillance System, which conducted more than 400,000 random telephone surveys of U.S. adults. The researchers identified respondents as having arthritis if they had ever been told by a doctor that they had arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

Among the survey respondents who self-identified as having arthritis, 52% reported receiving an influenza vaccination by either injection or nasal spray in the prior 12 months; the flu vaccination rate was 31% in the other adults surveyed, Jennifer Hootman, Ph.D., and her

colleague reported in a poster at the meeting.

In an analysis that adjusted for demographics and general health indicators, people with arthritis were 40% more likely to have had an influenza vaccination, compared with the other adults surveyed, said Dr. Hootman, a CDC epidemiologist.



Influenza vaccination rates were 41% (younger than age 40), 56% (40-64), and 70% (65 or older).

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Several factors correlated with the prevalence of vaccination among the people with arthritis. Age was a particularly strong factor, even though influenza vaccination is recommended for all adults with a chronic illness like arthritis regardless of their age. People who self-reported arthritis and were aged 65 years or older were more than fourfold as likely to have had flu vaccination as were those aged 18-44 years. People with arthritis who were aged 45-64 years were about 60% more likely to have received vaccine, compared with the younger adults.

Another significant determinant in people with arthritis were state of residence. Arthritis patients living in South Carolina had a vaccination prevalence lower than 40%, and arthritis patients living in Arkansas, Indianapolis, and Texas had a rate of 40%-45%. Racial and ethnic minorities, smokers, people who were obese, and people with a low education level also had a significantly lower vaccination rate than did people with arthritis in comparator groups, Dr. Hootman reported in her poster.

The second report looked at rates of vaccination for influenza, pneumonia, and herpes zoster during 2007-2008 among 10,481 patients with arthritis who were enrolled in the National Data Bank for Rheumatic Diseases.

The study population included patients with rheumatoid arthritis (70%), fibromyalgia (10%), systemic lupus erythematosus (8%), and noninflammatory rheumatic diseases (12%). Health authorities also recommend regular pneumococcal vaccination for adults with a chronic disease such as arthritis, but no recommendation exists for the herpes zoster vaccine.

The results again showed that vaccination rates for influenza and pneumonia were very age dependent. Patients reported influenza vaccination during the prior year at a rate of 41% in those aged

younger than 40 years, 56% in those aged 40-64 years, and 70% in those aged 65 or older, said Kalab Michaud, Ph.D., a rheumatology researcher at the University of Nebraska in Omaha.

The rates for ever having a pneumococcal vaccination were 30% in patients younger than 40 years, 45% in those aged 45-64, and 78% in patients 65 or older. The rates for a pneumococcal vaccination within the prior 5 years were 24%, 37%, and 66% respectively in the three age groups.

Patients aged 65 years or older also reported a 9% rate of ever having vaccination for herpes zoster.

The vaccination rates for both influenza and pneumonia were significantly higher in patients with lupus, and higher for pneumonia in patients with rheumatoid arthritis, compared with patients with noninflammatory rheumatoid disease. The immunization rates for both infections were significantly lower in patients with fibromyalgia.

Other significant determinants of vaccination rates in these patients included an education level lower than high school graduation, which reduced the rate, and the presence of comorbidities such as diabetes, heart disease, or pulmonary disease, which increased the rate.

The researchers on both studies reported no financial disclosures. ■