Index Measures Impact of RA on Patients' Lives

BY DIANA MAHONEY

By collapsing seven health domains into one composite index, the patient-derived Rheumatoid Arthritis Impact of Disease score "allows easy assessment of the patient's perspective both for clinical trials and practice," according to Dr. Laure Gossec of Hôpital Cochin in Paris.

The Rheumatoid Arthritis Impact of Disease (RAID) scoring system is designed to measure the impact of rheumatoid arthritis (RA) on patients' lives. The score contains components to assess perceived pain, functional disability, fatigue, emotional well-being, physical well-being, sleep disturbance, and coping. The RAID score is meant to enhance the assessment of disease status, progression, and treatment response obtained through existing disease-activity and composite indices. In essence, it is an attempt to quantify the experience of living with RA, Dr. Gossec explained in an interview.

To develop the composite response index, the principal investigators convened a steering committee comprising rheumatologists from 10 European countries along with 10 RA patients from each of the countries. Through a series of focus group sessions, the committee identified 17 areas of health that would be relevant for inclusion in the score based on an extensive literature review and the patients' personal experience, Dr. Gossec and her associates explained (Ann. Rheum. Dis. 2009;68:1680-5).

To reduce the number of domains that would be included in the final outcome measure, the steering committee devised a ranking strategy whereby 100 patients with RA (10 from each country) were asked to rank the domains from 1-17, with 1 being the most important and 17 being the least important, from their own disease experience, according to the authors. "The seven highest-ranked domains were retained in the RAID score," they wrote.

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To determine the relative importance of the top seven health domains, an additional 505 RA patients (approximately 50 from each country) were asked to distribute 100 points across the domains according to their relative impact. Based on these rankings, mean and median ranks were computed for the entire group of patients and linearly transformed to a 0-100 range, which became the basis for the final weights, the authors reported.

The relative ranked weights of the seven health domains for aggregation into a composite score were 21% for pain, 16% for functional disability, 15% for fatigue, and 12% each for emotional well-being, sleep, coping, and physical well-being, they stated. "The final selection of domains is in keeping with the published qualitative literature as pain, functional disability, and fatigue appear to be of utmost importance to many patients and were the first three domains in the ranking process," they noted.

An analysis of the domain rankings by country determined that the patient-perceived impact of RA was similar across different countries, as well as across different patient and disease characteristics, both of which strengthen "the relevance and generalisability of the preliminary RAID score," the authors wrote.

To measure each of the candidate domains, the steering committee, principal investigators, and two external experts selected a simple question and, when possible, a more comprehensive validated instrument or questionnaire. Because not all of the patient-prioritized domains are easy to measure—well-being, for example, is not readily assessable—the group elaborated specific questions, and because some domains (such as functional disability) lacked a consensus regarding which of the multiple available questionnaires was most appropriate, more than one instrument was included, the authors wrote. "In all, 12 instruments were selected for the seven domains," they said, noting that the final choice of one instrument per domain will be made after ongoing validation study of the RAID score.

In addition to enabling the assessment of all of the domains of major importance to patients, the patient-derived measure has the benefit of being "easy to fill in and score," making it a practical research tool, Dr. Gossec said. Although the score is less sensitive to change than the Disease Activity Score–28, "so are all patient-reported outcomes," she noted.

The measure is currently being implemented in at least three ongoing clinical trials and at least one cohort, said Dr. Gossec, noting that "preliminary results indicate it is a valid assessment of the patients' perspective in rheumatoid arthritis."

Dr. Tore K. Kvien said in an interview that additional validation studies are needed to assess the psychometric properties of the RAID score, to finalize the choice of domains and instruments, and to compare its value to that of existing patient-reported outcome indices. However, "the measure will become an important tool for both research and clinical practice in the future because of its ability to capture information that is relevant for patients," said Dr. Kvien, a principal investigator and professor of rheumatology at the University of Oslo. In particular, it will provide researchers and clinicians with a more thorough picture of the patient experience when measuring the efficacy of disease interventions, he said. ■

Disclosures: *Dr. Gossec, Dr. Kvien, and the study coauthors reported having no financial conflicts of interest.*

RA Drugs During Pregnancy Tied to More Birth Defects

BY AMY ROTHMAN SCHONFELD

PHILADELPHIA — Women with rheumatic disease who took etanercept during pregnancy were three times more likely to have a child with a major malformation than a disease-matched comparison group, judging from interim results from a small sample.

Most of the malformations were isolated, and no patterns of birth defect were apparent, according to Christina Chambers, Ph.D., who presented the findings from the Autoimmune Diseases in Pregnancy Project being conducted by the Organization of Teratology Information Specialists (OTIS) at the annual meeting of the American College of Rheumatology.

"These are ongoing studies with a target sample size that is intended to have sufficient power to answer our research questions," said Dr. Chambers, an associate professor of pediatrics and family and preventive medicine at the University of California in San Diego.

The OTIS study is a prospective observational cohort study with the purpose of evaluating effects of autoimmune diseases and their treatment on pregnancy outcomes and fetal development. Recruitment began in 2000, and is projected to continue through 2015. Current recruitment stands at 944, with a goal of 1,500.

Pregnant women are typically enrolled in the study before they reach 20 weeks of gestation. To be enrolled, the women must have current diagnoses of rheumatoid arthritis (RA), juvenile RA, ankylosing spondylitis, psoriasis and psoriatic arthritis, or Crohn's disease. After birth, the infants are followed for up to a year, during which time they are assessed by their pediatricians and undergo blinded dysmorphological examination by OTIS physicians.

"Evaluating pregnancy outcomes following medication exposure is a not a situation that lends itself to conducting a randomized, controlled trial for obvious ethical reasons," Dr. Chambers said. While the literature contains case reports, the OTIS study is designed to give clinicians the evidence-based information they need to counsel patients who are pregnant or considering becoming pregnant.

At the time of this progress report, outcome was available for 115 women with RA who had been exposed to etanercept, compared to 55 disease-comparison controls. Outcome was available for 42 women with RA who were exposed to adalimumab, compared with 58 disease-matched women and 84 healthy controls.

'Our results indicate that most of the defects were isolated with no apparent patterns.'

DR. CHAMBERS

The percentage of live births was higher in those treated with etanercept, compared with those with similar rheumatic diseases (92% vs. 85%), and fewer spontaneous abortions occurred in the etanercept-treated group (4% vs. 11%). There were no ectopic pregnancies in either group. One stillbirth was reported in the etanercept cohort and none in the controls.

Preterm deliveries were more common in women who were taking etanercept (23% vs. 13%). Taking the drug did not seem to be related to the average birth weight in full term infants.

Of the major malformations among all pregnancies enrolled in OTIS, 12% (14 of 114) were reported in the etanercept group, compared with 3.8% (2 of 53) in the disease-matched controls. "Typically we would see a specific pattern of malformation with a medication that truly causes defects, but our results indicate that most of the defects were isolated with no apparent patterns," Dr. Chambers said.

For those exposed to adalimumab, the percentage of live births was lower in those receiving the drug (88%), compared with those with similar autoimmune illnesses (93%) and healthy controls (92%). The rate of spontaneous abortions also was higher in the adalimumab-treated cohort (12%) compared with the disease-matched (5%) and healthy cohorts (1%). There were no ectopic pregnancies or stillbirths in the drug-treated group.

Preterm delivery was higher in both the adalimumab-treated (14%) and disease-matched comparison (17%) groups, compared with healthy controls (4%). Mean birth weight was approximately 300 g less in full-term infants whose mothers had received adalimumab, compared with healthy controls, but similar to full-term infants in the disease-matched comparison group. Rates of major malformations were similar (4%-5%) in all groups and within the range of expected numbers in the general population, Dr. Chambers said. "Firm conclusions await the accumulation of target sample size for adalimumab and etanercept and multivariate analysis." ■