

# Disease Activity Higher in Obese RA Patients

*With obesity being a chronic inflammatory state, it affects RA adversely.*

BY SARA FREEMAN

FROM THE ANNUAL MEETING OF THE BRITISH SOCIETY FOR RHEUMATOLOGY

BRIGHTON, ENGLAND – Very obese patients with early rheumatoid arthritis appear to have higher disease activity at presentation, according to recent data.

In a study of 216 individuals with early, clinically diagnosed rheumatoid arthritis (RA), those with a body mass index (BMI) of 35 kg/m<sup>2</sup> or higher were more likely than those with lower BMIs to have higher 28-joint count disease activity scores (DAS28), mainly because of their higher erythrocyte sedimentation rates (ESRs).

As a result, by using the DAS28 to guide their clinical decision making, physicians may give disease-modifying antirheumatic drug (DMARD) therapy too early in the course of the disease, suggested Stephanie Ling, who presented the findings.

Ms. Ling, a fifth-year medical

student at the University of Liverpool, England, noted that earlier, more aggressive treatment of obese RA patients might explain why some studies have suggested that obesity, somewhat paradoxically, is actually beneficial in some patients with RA.

Indeed, studies have linked obesity with reduced mortality (Arch. Intern. Med. 2005; 165:1624-9; Ann. Rheum. Dis. 2010;69:i61-4) and protection against radiographic joint damage (Ann. Rheum. Dis. 2008;67:769-74), although high levels of adiponectin – secreted from the fat tissue – are associated with increased joint inflammation (Arthritis Rheum. 2009;61:1248-56).

“Physiologically, obesity is characterized by the expansion of white adipose tissue, which is not a benign tissue,” Ms. Ling explained.

White adipose tissue secretes fatty acids, and its constituent cells, the adipocytes, also secrete proinflammatory proteins, or adipokines.

“Obesity can be thought of as a chronic inflammatory state,” said Ms. Ling, adding that studies also indicate that “obesity could have adverse effect on RA disease activity.”

In the current study, patients’ baseline disease characteristics, including DAS28 scores,

rheumatologist and had symptoms lasting for less than 1 year. The mean age of participants was 57 years and 57% of the cohort was female.

Patients were grouped according to their BMI category, as defined by World Health Organization (WHO) criteria.



**Because obesity increases the ESR, overweight RA patients may have a higher DAS28 score than their disease merits.**

rheumatoid factor status, and anti-cyclic citrullinated protein antibody status, were assessed according to BMI at presentation. All patients had early RA diagnosed by a consultant

One-third fulfilled criteria for obesity, with approximately 22% in the obese I category (BMI more than 30 kg/m<sup>2</sup> but less than 35 kg/m<sup>2</sup>) and just over 11% in the obese II–III cat-

egory (BMI of more than 35 kg/m<sup>2</sup>). One-third of patients were overweight and the remaining third were either normal weight or underweight.

Results showed that obese II–III patients were more likely to present with elevated (5.1 or higher) DAS28 scores than their lighter counterparts. Odds ratios (OR) adjusted for age, gender, and smoking status were 4.1 for DAS28 and 3.67 for ESR when comparing the very obese patients with the other BMI groups.

Considering each component of the DAS28 separately, Ms. Ling said, a high ESR (32 mm/h or more) was the main factor that appeared to be significantly higher as body weight increased. There was no association with tender or swollen joint counts, global visual analog scale, symptom duration, or rheumatoid factor/anti-cyclic citrullinated protein antibody status, she said.

“There is a need for well-designed longitudinal studies to examine the effect of obesity on the extent of RA disease progression,” she suggested.

Ms. Ling reported no conflicts of interest. ■

## Obesity Disproportionately High Among Arthritis Patients

BY NASEEM S. MILLER

FROM THE CDC MORBIDITY AND MORTALITY WEEKLY REPORT

A disproportionate number of U.S. adults with arthritis are obese, and the prevalence has been growing over the years, according to a report from the Centers for Disease Control and Prevention.

Obesity and arthritis have a complex relationship, the authors note. “Obesity is an independent risk factor for severe pain, reduced physical function, and disability among adults with arthritis, which might be related to both the increased mechanical stress caused by extra weight on the joints as well as inflammatory effects of elevated cytokines and adipokines that affect cartilage degradation,” according to the report.

On average, the obesity prevalence was 54% higher in adults with arthritis than in those without the condition (MMWR 2011;60:509-13).

“Efforts are needed to increase access to and availability of effective services and programs to manage both chronic

conditions,” the authors wrote.

The report shows that the prevalence of obesity varied widely by state, and 14 states had a significance increase between 2003 and 2009.

There are several reasons for variations among the states, among which is the variation resulting from the underlying obesity rate in the general population of the state, Jennifer M. Hootman, Ph.D., the lead author of the study and an epidemiologist in the arthritis program at the CDC, said in an interview.

“States with relatively higher rates of obesity overall tended to also be the higher states among adults with arthritis,” she added.

In 2003, the age-adjusted obesity prevalence in adults with arthritis was greater than or equal to 30% in 37 states and the District of Columbia. Two states had a prevalence of 40% or higher.

Fast-forward to 2009, and the number of states with at least 30% of their arthritic population in the obese bracket had increased to 48, 12 of which had a prevalence of 40% or more. During the same year, the obesity prevalence among U.S. adults without arthritis was

**In 2009, the number of states with at least 30% of their arthritic population in the obese bracket was 48, and in 12 of those states that prevalence was at least 40%.**

30% or higher in only two states. From 2003 to 2009, the percent change in the prevalence ranged from 26.2% in Wisconsin, to –19.2% in the District of Columbia, the only area with a sharp decline, and it stayed roughly the same in 35 states.

In 2009, nearly 50 million – or 22% – of U.S. adults had arthritis, with an estimated annual medical cost of \$128 billion.

Studies have shown that small amounts of weight loss can improve symptoms and function, and can cut the risk of early mortality almost in half (Clin. Geriatr. Med. 2010;26:461-77; J. Gerontol. A Biol. Sci. Med. Sci. 2010;65: 519-25).

Other studies have shown that counseling patients with arthritis who are obese has a strong correlation with their attempt to lose weight (Am. J. Prev. Med. 2004;27:16-21).

“However, provider counseling for weight loss and physical activity for adults with arthritis is below the Healthy People 2010 target, and represents an effective but underused opportunity to improve the health of adults with arthritis,” said the authors (Ann. Fam. Med. 2011;9:136-41).

Reflecting on the trends in his practice, Dr. Larry Greenbaum, a rheumatologist in Greenwood, Ind., said that the report’s findings “do have a ring of truth to them.” He said that he recommends

diet and exercise to his patients, although “it is very difficult to get people to modify their lifestyle.” He added that the 15-minute office visits don’t leave much time for him to delve into counseling, “but I do think it’s important.”

Dr. Hootman also stressed the importance of counseling patients to lose weight. “People with arthritis and their health care providers should be encouraged to know that even small amounts of weight loss and small increases in physical activity can have important benefits in terms of reducing pain and improving function,” she said.

The study has several limitations. Because the data are self-reported, they’re subject to recall bias; the survey does not include individuals in institutions or households without a landline phone; and the case-finding question in the analysis covered a range of conditions, such as rheumatoid arthritis and gout, which might have different relationships to obesity, according to the authors.

The report is based on the annual Behavioral Risk Factor Surveillance System random-digital-dialed phone survey of adults aged 18 or older in 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. The arthritis and obesity prevalence data are collected in odd-numbered years.

Dr. Greenbaum reported that he has no relevant conflicts of interest. ■