

# Tai Chi Eases Pain, Enhances Function in Knee OA

BY SHERRY BOSCHERT  
San Francisco Bureau

SAN FRANCISCO — The gentle martial art tai chi significantly improved pain and physical function in a randomized, controlled trial in 40 patients with knee osteoarthritis.

Participants were randomly selected to attend hour-long classes twice a week for 12 weeks to learn and practice 10 modified forms of classical Yang style tai chi or to receive wellness education and engage in stretching in a control group. Patient characteristics were similar between groups, with baseline pain scores of 209 in the tai chi group and 220 in the control group on the Western Ontario and McMaster Osteoarthritis (WOMAC) Index, which was the main outcome measure.

After 12 weeks, WOMAC pain scores decreased by 157 points in the tai chi group and 39 points in the control group, a significant difference between groups ( $P = .004$ ). Dr. Chenchen Wang reported at the annual meeting of the American College of Rheumatology.

She and her associates repeated the pain assessment at 24 and 48 weeks to gauge the

durability of the effects. Although the WOMAC pain scores remained significantly different between groups at 24 weeks, they did not at 48 weeks as some patients stopped practicing tai chi once the 12-week intervention had ended. Those who continued their tai chi practice, however, continued to show significant improvements in pain and secondary measures of function, compared with the control group, added Dr. Wang of Tufts University, Boston.

The tai chi group showed significant improvements, compared with the control group, in the WOMAC physical function score; the patient and physician global assessment scores (on visual analog scales); a timed chair-stand test; an assessment of knee proprioception; and in depression scores on the Center for Epidemiology Studies Depression (CES-D) Index.

"This is a very promising study," Dr. Wang said. "However, these results should be confirmed by future large studies."

Tai chi is an ancient Chinese exercise that combines meditation with slow, gentle, graceful movements; deep breathing; and relaxation. It uses an integrated mind-body approach to enhance muscle function, balance, and flexibility. Findings from a previous

review by Dr. Wang and her associates of 47 studies of tai chi for various chronic medical problems suggested benefits in physical and mental health and function (*Arch. Intern. Med.* 2004;164:493-501), but a dearth of high-quality studies left these conclusions in doubt and led to the current study, she said.

Sessions in the current trial included a warm-up, review of technique, and practice of the meditative movements, some of which were modified for the osteoarthritic cohort by incorporating chairs or other accommodations. The mind-body interaction of tai chi makes it difficult to compare it to a sham intervention, so the investigators used a control of conventional stretching and education about osteoarthritis, diet, nutrition, and more.

The patients were obese, with a baseline body mass index of 30 kg/m<sup>2</sup> in both



Pain scores decreased 157 points after 12 weeks of tai chi, compared with a 39-point decrease in the control group.

groups. The mean age was 63 years in the tai chi group and 68 years in the control group. Both groups were predominantly white and female. Patients had had knee osteoarthritis for a mean of 10 years. All of the patients completed the 12-week trial, with attendance rates of 85% in the tai chi sessions and 89% in the control sessions.

Some patients used nonsteroidal anti-inflammatory drugs or other analgesics during the study, but medication use did not differ significantly between groups. ■

## Proinflammatory HDL May Flag Cardiovascular Risk in Lupus

BY SALLY KOCH KUBETIN  
Senior Editor

SAN FRANCISCO — Proinflammatory high-density lipoprotein has promise as a biomarker for atherosclerosis in women with systemic lupus erythematosus.

Findings from a study of 274 women with systemic lupus erythematosus (SLE) and 154 age-matched controls showed that serum levels of proinflammatory HDL were likely to be elevated in women found by B-mode ultrasound to have thickened carotid intima, indicating plaque.

Although this association was noted in both the women with SLE and the healthy controls, the association was stronger in the women with lupus, according to one of the investigators, Dr. Maureen A. McMahon, a rheumatologist at the Ronald Reagan UCLA Medical Center, Los Angeles.

In particular, carotid artery plaque was found in 16% of the women with lupus and 15% of the women in the control group. Of the women with lupus who had plaque, 80% had measurable proinflammatory HDL cholesterol, compared with 43% of the women with SLE but no plaque. Proinflammatory HDL was found in 44% of the healthy women with plaque, compared with 10% of the healthy plaque-free women.

The mean carotid intimal thickness was 0.57 mm<sup>2</sup> for the women in the SLE group versus 0.51mm<sup>2</sup> for the controls, a statistically significant difference. The mean levels of proinflammatory HDL

were highest in the women in the highest quartile for carotid intimal thickness, defined as being greater than 0.67 mm<sup>2</sup>.

Women with SLE were found to have significantly higher rates of hypertension and diabetes, compared with the control group on univariate analysis. However, age and current cigarette smoking were the only other significant risk factors for plaque in these women, according to findings from multivariate analysis, Dr. McMahon reported at the annual meeting of the American College of Rheumatology.

Paraoxonase (PON) activity or apolipoprotein A-I did not predict atherosclerosis in this study. Traditional risk factors for atherosclerosis such as hypertension, LDL cholesterol, and other protective components for HDL cholesterol were found not to be surrogates for proinflammatory HDL.

Women with SLE have long been observed to have an unexplained increased risk for atherosclerosis. Until now, the underlying mechanisms have not been explained.

None of the women had been taking statins within the 3 months preceding the study.

Levels of proinflammatory HDL cholesterol are "remarkably stable" in women with lupus, Dr. McMahon said in response to a question from the audience. Thus, levels do not increase and decrease depending on disease activity, she added, noting this has not been found to be the case in rheumatoid arthritis patients studied by other investigators.

Dr. McMahon reported that she has no financial conflicts of interest. ■

## Improvements Are Seen in RA Patients Who Quit Smoking

BY BETSY BATES  
Los Angeles Bureau

SAN FRANCISCO — Preliminary research suggests that rheumatoid arthritis patients who quit smoking may experience fewer swollen and tender joints and improved C-reactive protein levels, among other measures of improved disease activity, according to a presentation at the annual meeting of the American College of Rheumatology.

In the first known study of the impact of active smoking cessation in RA, Dr. Mark C. Fisher and his associates at the New York University Medical Center Hospital for Joint Diseases examined markers of disease progression in patients who quit smoking, compared with those who continued to smoke.

The cross-sectional study examined records for 16,521 patients with active rheumatoid arthritis, of whom 2,328 were current smokers at baseline. At an average follow-up of 3.5 years, 328 of these smokers had quit successfully, according to at least 2 consecutive self-reports at clinic visits spaced about 3 months apart.

At baseline, no differences were seen between the patients who eventually quit and those who continued to smoke in terms of disease duration, rheumatoid factor or cyclic citrullinated peptide (CCP) status, or medication type or use.

Nonetheless, at their final clinic visit for

the study, the smokers who had quit had a lower mean Clinical Disease Activity Index (14 versus 11.5), which reflected a reduced number of swollen and tender joints and lower C-reactive protein level, a marker of inflammation.

When this difference was adjusted for potentially confounding variables, the relationship remained "statistically significant, and probably clinically significant as well," but less powerful, said Dr. Fisher, a research fellow, in an interview at the meeting.

An intriguing finding within the adjusted data was the fact that quitters with more severe disease at baseline appeared to have the

greatest improvement on their Clinical Disease Activity Index scores as well as patient- and physician-assessed global improvement. "Remission data were even more impressive," said Dr. Fisher.

In an unadjusted model, 12.3% of patients who continued to smoke were in remission at the final follow-up visit, compared with 18.6% of those who quit. The difference remained "highly statistically significant" even after adjustment for potentially confounding variables. To find that quitters were 1.49 times more likely to go into remission is powerful, he said, even in a "snapshot" cross-sectional study.

A longitudinal study is being planned, said Dr. Fisher. He reported no disclosures with regard to funding of the study. ■



**Quitters with more severe disease at baseline had the greatest improvement on their disease activity scores.**

DR. FISHER