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NEW DRUG LOOKS PROMISING FOR RHEUMATOID ARTHRITIS TREATMENT

DALLAS -- Researchers at The University of Texas Southwestern Medical Center at Dallas report promising results from preliminary tests of a new drug in patients with rheumatoid arthritis. The drug, known as BIRR 1, blocks the abnormal immune response that causes rheumatoid arthritis, a painful, disabling disease that affects almost one percent of the population.

Dr. Peter Lipsky, director of the Harold C. Simmons Arthritis Research Center at UT Southwestern, is supervising the research. Assisting Lipsky are Dr. Arthur Kavanaugh, assistant professor of internal medicine, and Lisa Nichols, nurse coordinator. Kavanaugh presented results from clinical trials at the American College of Rheumatology's annual meeting in Atlanta this week.

BIRR 1 binds with and blocks the function of a protein known as intercellular adhesion molecule-1 (ICAM-1). ICAM-1 is one of a family of molecules that draws white blood cells to the site of an infection.

In autoimmune diseases like rheumatoid arthritis, however, white cells recruited in part by ICAM-1 accumulate in places where they normally would not--such as joints--causing tissue damage, inflammation and pain.

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To interrupt this process, scientists had to produce a protein called an antibody that would specifically bind to ICAM-1, rendering it incapable of interacting with white blood cells. BIRR 1 is such an antibody. Earlier testing of BIRR 1 in animals showed that it could prevent white blood cells from leaving the bloodstream, reducing the severity of inflammation.

In human trials, researchers treated 21 patients who had severe, longstanding rheumatoid arthritis that had failed to respond to more conventional therapies such as gold injections, methotrexate and other drugs. In UT Southwestern's dose escalation study, half of the patients receiving a 5-day infusion of the drug had a substantial reduction in joint tenderness, morning stiffness, the number of swollen joints and other symptoms associated with rheumatoid arthritis. For some, the improvement persisted through two months of follow-up. Side effects were minimal.

"While these results are preliminary, we're optimistic that we'll see even better results if we're able to treat people who have less severe arthritis," said Kavanaugh. The doctors said future studies may lead to using BIRR 1 to treat other inflammatory diseases.

The trials were conducted with cooperation from Boehringer Ingelheim Pharmaceuticals Inc.

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NOTE: The University of Texas Southwestern Medical Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and Southwestern Allied Health Sciences School, affiliated teaching hospitals and outpatient clinics.