

# News

Office of Medical Information  
The University of Texas

Southwestern Medical Center at Dallas

August 12, 1991

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\*\*\*\*UT Southwestern researchers study new  
drug to treat rheumatoid arthritis

DALLAS -- Researchers at The University of Texas Southwestern Medical Center at Dallas are studying a new investigational drug in patients with rheumatoid arthritis. The drug, known as BIRR 1, disarms an important mechanism in the immune response that causes rheumatoid arthritis. It has been used successfully in preventing organ rejection in renal transplant patients. UT Southwestern researchers hope it also can block the devastating effects of inflammatory diseases like rheumatoid arthritis.

Dr. Peter Lipsky, professor of internal medicine and microbiology and chief of the Rheumatic Diseases Unit, is supervising the study. Assisting Lipsky are Dr. Arthur Kavanaugh, associate instructor of internal medicine; Dr. Joe Cole, assistant professor of internal medicine; and Lisa Nichols, nurse coordinator.

BIRR 1 acts on a protein known as intercellular adhesion molecule-1 (ICAM-1). ICAM-1 is one of a family of molecules that tell white blood cells where to leave the bloodstream in order to fight infection. Normally, this is an important and necessary function. For example, during an infection an endothelial cell like those that line the blood vessels will display on its surface ICAM-1 molecules, which cause white blood cells to stick. They can then leave the bloodstream to combat the infection by passing between endothelial cells.

(More)

In autoimmune diseases like rheumatoid arthritis, however, the immune system turns against the body. White cells recruited by ICAM-1 accumulate in the connective tissue that lines joints and cause tissue damage, swelling and pain.

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

Patients who have had active rheumatoid arthritis for at least four years and have failed to respond to conventional therapies such as steroids, gold injections or methotrexate are eligible to participate in the study. For more information, call Lisa Nichols at (214) 688-8395.

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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.