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New psoriatric arthritis mouse model developed

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Psoriatic arthritis (PsA) is a chronic inflammatory disease that can reduce mobility and agility in patients. PsA is known to increase the risk of type II diabetes. A recent study published in *The FASEB Journal* tested a novel mouse model that may one day lead to therapeutic approaches or reagents for human skin pathology, as well as joint erosion and disc degeneration, that would improve quality of life for patients with PsA.

To conduct the study, researchers used two groups of non-obese diabetic (NOD) mice. One group was infected with an adenoviral vector engineered to express a single-chain IL-23 (pro-inflammatory cytokine), while the other was infected with a control virus. The group infected with the IL-23 virus developed PsA following a single intravenous injection. The systemic delivery of the virus allowed for the development of a broad array of symptoms often seen in human PsA patients, including skin, disc, and joint disease. The development of these symptoms makes this the only mouse model of PsA.

"This novel mouse model represents an excellent model of human PsA that encompasses most symptoms of human disease," said Paul Robbins, professor of biochemistry, molecular biology, and biophysics at the University of Minnesota. "The model can be used to test and optimize PsA therapies, thus improving quality of life for PsA patients."

In another surprising finding, the research team observed that IL-23 did not accelerate diabetes, but actually delayed the onset of hyperglycemia,

or high blood sugar.

"This disease has needed a robust animal model system for some time and this study constitutes such an advance," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*.

Provided by Federation of American Societies for Experimental Biology

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