

# Study finds cycling JAK inhibitors to be an effective option for patients with difficult-to-treat rheumatoid arthritis

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New research presented this week at ACR Convergence, the American College of Rheumatology's annual meeting, shows that people with

difficult-to-treat rheumatoid arthritis who do not have success with one Janus kinase inhibitor (JAK inhibitor) can achieve success either cycling to other JAKi medications or switching to a biologic drug.

Rheumatoid arthritis (RA) is the most common type of autoimmune arthritis. It is caused when the immune system (the body's defense system) is not working properly. RA causes pain and swelling in the wrist and small joints of the hand and feet. Immunosuppressive treatments for RA can stop joint pain and swelling and may prevent joint damage.

JAK inhibitors are more recent additions to treat RA, but each one works differently. Some patients who fail a first JAK inhibitor may then try one of the others. There is no data that compares the effectiveness of cycling these therapies as opposed to switching to a biologic disease-modifying antirheumatic drug (bDMARD) in patients who have failed a first JAK inhibitor.

"In real life, JAK inhibitors are being used primarily in patients who have already failed [treatment](#) with a biologic DMARD, and they have shown to be effective in these situations. Despite this, in [clinical trials](#), there were some patients who discontinued their JAK inhibitors due to lack of efficacy or safety concerns," says Manuel Pombo-Suarez, MD, Ph.D., a rheumatologist at Hospital Clinico Universitario of Santiago de Compostela, Spain, and the study's co-author.

Researchers set out to find another possible therapy to control disease in patients with RA. "There is no data on the effectiveness of using a second JAK inhibitor compared to a biologic DMARD after failure of a JAK inhibitor. We must provide a solution for these patients, so we asked this question in our study to find out which treatment strategy would be appropriate," says Pombo-Suarez.

This nested cohort study included data on 708 RA patients who failed a first JAK inhibitor and then were treated with either a second JAKi (cycling) or a biologic DMARD (switching) in routine care. There were 154 who cycled and 554 who were switched. The researchers compared effectiveness for both treatment strategies on drug retention and disease activity, which was measured by DAS-28 disease activity test scores over one year after they started their second treatment. Patients who cycled JAK inhibitors tended to be older, had RA for a longer time, had already received more biologic DMARDs, and had a longer exposure to the first JAK inhibitor compared to patients who switched.

Cycling and switching showed similar drug survival rates after two years of follow-up. Still, researchers noticed an interesting, though not statistically significant trend: Discontinuation of treatment was more likely among the patients who cycled when their reason for stopping the first JAK inhibitor was because they had an adverse event. These patients were less likely to discontinue their second JAK inhibitor if they stopped the first drug because it was ineffective. Over time, patients' disease activity test scores evolved in a similar way in both the cycling and switching groups, and both showed improvements after one year.

"This was precisely the goal of our study: To refine treatment options after failure to a JAK inhibitor. We intend to provide an answer for a growing population of RA patients, those who have failed treatment to JAK inhibitors," says Dr. Pombo Suarez. "Our conclusion is that in those patients, the effectiveness of cycling to another JAK inhibitor is no different than that of switching to a biologic DMARD. Interestingly, patients cycling JAK inhibitors had a 'more difficult-to-treat' profile."

**More information:** Manuel Pombo-Suarez et al, Effectiveness of Cycling JAKi Compared to Switching to bDMARD in Patients Who Failed a First JAKi in an International Collaboration of Registries of Rheumatoid Arthritis Patients (the JAK-pot Study) [abstract]. *Arthritis*

*Rheumatology* (2021). Available at [acrabstracts.org/abstract/effectiveness-the-jak-pot-study/](https://acrabstracts.org/abstract/effectiveness-the-jak-pot-study/)

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