

New oral treatment option for rheumatoid arthritis

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Credit: Medical University of Vienna

Patients suffering from rheumatoid arthritis are treated for around six months with the standard anti-rheumatic agent methotrexate, to which many patients respond very well. However, if they do not respond and no remission or at least reduction in the activity of the disease can be achieved, they are given a combined treatment of methotrexate and a biologic agent (frequently an anti-TNF, such as e.g. adalimumab, administered by injection), if risk factors are present. An international research group has now shown that there is another, equally effective oral treatment option: the combination of methotrexate and the chemically synthesised Janus Kinase Inhibitor tofacitinib. The results of the study, for which MedUni Vienna rheumatologist Josef Smolen was senior author, have now been published in *The Lancet*.

Smolen, head of the Division of Rheumatology at MedUni Vienna and the third most quoted rheumatology expert, and researchers from the USA, Argentina, Australia, the UK and China, were able to demonstrate that the combination of [methotrexate](#)/tofacitinib produced equally effective results as the current standard combination of

methotrexate/adalimumab. The latter has to be injected into [patients](#) every two weeks, whereas the new option involves taking two tablets a day – a potential advantage for patients. A total of just over 1,100 volunteers were involved in the study.

Says Smolen: "At the same time we were able to show that monotherapy with tofacitinib does not achieve such good results as combined therapy with methotrexate, even though it is still quite effective."

Tofacitinib as an "enzyme inhibitor"

How does Tofacitinib work? It inhibits particular enzymes (Janus Kinases (JAK)), which are jointly responsible for the inflammatory response in [rheumatoid arthritis](#). JAKs carry signals from various inflammatory messenger substances, such as interleukin-6 or interferons, into the cell and are therefore largely responsible for triggering the destructive inflammation that occurs in rheumatoid arthritis. If these enzymes are inhibited, the painful immune response that occurs in this autoimmune disease is suppressed. Tofacitinib, which has already been on the market in the USA for some time now, was recently licensed in the European Union.

Approximately 80,000 Austrians have rheumatoid arthritis

Around 3% of the population have a form of inflammatory rheumatism (hence around 250,000 people in Austria) and around 1% have rheumatoid [arthritis](#) (approx. 80,000 people in Austria).

More information: Roy Fleischmann et al. Efficacy and safety of tofacitinib monotherapy, tofacitinib with methotrexate, and adalimumab with methotrexate in patients with rheumatoid arthritis (ORAL Strategy): a phase 3b/4, double-blind, head-to-head, randomised controlled trial, *The Lancet* (2017). [DOI: 10.1016/S0140-6736\(17\)31618-5](https://doi.org/10.1016/S0140-6736(17)31618-5)

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