# Bayesian Network Meta-analysis to Compare Efficacy and Safety of two JAK Inhibitors in RA

SCIENCE

Abstracts

Key Take-Away:

This study reported that tofacitinib 10mg + MTX and baricitinib 4mg + MTX were the most efficacious interventions for rheumatoid arthritis patients with inappropriate response to disease-modifying anti-rheumatic drugs (DMARDs) or biologics therapy. Also, they were not associated with a significant risk of SAEs. But, long-term studies are awaited in a large number of patients with active RA that is inadequately responsive to MTX or biologics to determine the relative efficacy and safety of tofacitinib and baricitinib.

**Introduction:**

The relative efficacy and safety of tofacitinib and baricitinib were investigated in RA patients with an inadequate response to DMARDs or biologics.

**Methods**:

The researchers conducted a Bayesian network meta-analysis to combine direct and indirect evidence from randomized controlled trials (RCTs). This helped to investigate the efficacy and safety of tofacitinib and baricitinib in combination with DMARDs in RA patients with an inappropriate DMARD or biologic response.

**Results:**

There were 12 RCTs comprising of 5883 patients who met the inclusion criteria. There were 15 pairwise comparisons comprising of 10 direct comparisons between 6 interventions. Tofacitinib 10 mg + methotrexate (MTX) and baricitinib 4mg + MTX were one of the most effective treatments for active RA with an inadequate DMARD or biologic response, then baricitinib 2 mg + MTX, tofacitinib 5 mg + MTX, and adalimumab + MTX. The ranking probability according to the surface under the cumulative ranking curve (SUCRA) revealed that tofacitinib 10 mg + MTX had the highest likelihood of being the best treatment to attain the ACR20 response rate (SUCRA = 0.865), followed by baricitinib 4mg + MTX (SUCRA = 0.774), baricitinib 2mg + MTX (SUCRA = 0.552), tofacitinib 5mg + MTX (SUCRA = 0.512), adalimumab + MTX (SUCRA = 0.297), and lastly, placebo + MTX (SUCRA <0.001). There were no serious adverse events after treatment with tofacitinib + MTX, baricitinib + MTX, adalimumab + MTX, or placebo + MTX.

**Conclusions**:

In RA patients with an inappropriate response to DMARDs or biologics, tofacitinib 10mg + MTX and baricitinib 4mg + MTX found to be the most efficacious interventions and not concerned with significant risk of serious adverse events.

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| **Authors:** | S.-C. Bae and Y. H. Lee |

Therapeutic, Tofacitinib, Baricitinib, Adalimumab, Methotrexate (MTX), Rheumatoid arthritis, Janus kinase (JAK) inhibitor, Antibody, Antimetabolites, Bayesian network meta-analysis, Randomized controlled trials, ACR20, Efficacy, Safety