

Lay summary

Mycophenolate mofetil (MMF) is an immunosuppressive drug widely used to manage systemic lupus erythematosus (SLE), an autoimmune condition that causes the immune system to attack healthy tissue, leading to inflammation and organ damage. MMF works by lowering the activity of the immune system, which helps control SLE symptoms. However, this suppression can also weaken patients' responses to vaccines, such as those for the flu or COVID-19, which raises concerns about vaccine effectiveness for people on MMF treatment.

To address this, researchers at the Monash Lupus Clinic explored whether temporarily pausing MMF could help patients produce better immune responses after receiving vaccines. This approach had been previously tested with another immunosuppressant, methotrexate, in patients with rheumatoid arthritis, where it was shown to improve vaccine response without worsening the disease. While there have been limited data on stopping MMF specifically, a small study has suggested that pausing it could similarly enhance antibody responses to COVID-19 vaccines.

The Monash study focused on adults with stable SLE who were taking MMF and had not experienced any disease flare-ups in the past three months. Participants were split into two groups: one group continued taking MMF as usual, while the other stopped taking it for two weeks after receiving their flu vaccine. The vaccine used was Afluria Quad®, a standard flu shot for adults. To assess the effects, researchers collected blood samples before and four weeks after vaccination to measure antibody levels and markers of the immune response. They also monitored patients' disease activity using clinical assessments and self-reported symptom scores.

The study found that temporarily stopping MMF led to a small but noticeable improvement in antibody responses without causing significant changes in disease symptoms or control. Patients who paused MMF had slightly higher levels of certain antibodies (IgG, IgA, and IgM). While these are preliminary results, suggesting a better immune reaction to the vaccine for those who withheld MMF briefly. We await further studies to further clarify this observation and to explore the optimal duration of the withholding period.

In summary, this research indicates that pausing MMF for a short period after vaccination may be a safe and effective way to enhance the immune response in SLE patients, potentially leading to better vaccine protection without worsening their condition. This approach could be particularly beneficial for boosting responses to seasonal flu shots and potentially other vaccines in this patient group.