A new approach to averting inflammation caused by COVID-19
12 May 2020

"We are now recognizing the importance of controlling this robust inflammatory response in COVID-19 infection in order to reduce associated organ damage and mortality," said Gilligan, a student at the Medical School. "Finding new ways to dampen the body's inflammatory response to COVID-19 will likely be as important as finding effective antiviral therapies to control COVID-19 infection and reduce life-threatening organ damage."

"Moreover, these compounds have been found to be non-toxic and non-immunosuppressive in ongoing clinical trials for other inflammatory diseases, making them even more promising candidates for rapid clinical translation," said Gilligan.

The research found that:

• one hallmark of SARS-CoV-2 infection is a cytokine storm, which is a drastic increase in immune cell production of cytokines;
• SARS-CoV-2 causes unchecked inflammation that can cause extensive organ damage, such as lung failure;
• current therapeutic strategies in COVID-19 focus on inhibiting a single pro-inflammatory cytokine rather than broadly inhibiting the body's inflammatory response;
• lipid mediators derived from omega-3 fatty acids serve as the body's natural "stop" signals to inflammation.

Increasing levels of these lipid mediators in the body could be a new therapeutic approach to preventing life-threatening inflammation caused by SARS-CoV-2.

"What is exciting for us is that these lipid mediators that 'turn off,' or resolve, inflammation are already in clinical trials for other inflammation-driven diseases, such as eye disease, periodontal disease and pain," said Dipak Panigrahy, an assistant...
professor of pathology in Beth Israel Deaconess Medical Center. "The mediators can quickly be applied to turn off inflammation in COVID-19 patients."


Provided by University of Minnesota

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.