Can marijuanna help transplant patients? New research says maybe

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Here's another discovery to bolster the case for medical marijuana: New research in mice suggests that THC, the active ingredient in marijuana, may delay the rejection of incompatible organs. Although more research is necessary to determine if there are benefits to humans, this suggests that THC, or a derivative, might prove to be a useful antirejection therapy, particularly in situations where transplanted organs may not be a perfect match. These findings were published in the September 2015 issue of *The Journal of Leukocyte Biology*.

"We are excited to demonstrate for the first time that cannabinoid receptors play an important role in the prolongation of rejection of a foreign graft by suppressing immune response in the recipient, said Mitzi Nagarkatti, Ph.D., a researcher involved in the work from the University of South Carolina School of Medicine. "This opens up a new area of research that would lead to better approaches to prevent transplant rejection as well as to treat other inflammatory diseases."

To make this discovery, Nagarkatti and colleagues used two groups of mice that were genetically different, and transplanted skin from one group to the other. All of the mice received incompatible skin, but one group was treated with vehicle (placebo) and the other was treated with THC. The scientists observed that the rejection of the skin graft in mice that received THC was delayed when compared to the control group that only received a placebo.

Please note: Transplant patients should not use marijuana as a therapy

without the consent of their physician and should only do so in compliance with any and all local, state and federal laws.

"More and more research is identifying potential beneficial effects of substances contained in marijuana, but a major challenge has been identifying the molecular pathways involved," said John Wherry, Ph.D., Deputy Editor of the *Journal of Leukocyte Biology*. "These new studies point to important roles for the cannabinoid receptors as targets that might be exploited using approaches that refine how we think about substances derived from marijuana."

More information: Jessica M. Sido, Prakash S. Nagarkatti, and Mitzi Nagarkatti. Δ9-Tetrahydrocannabinol attenuates allogeneic host-versus-graft response and delays skin graft rejection through activation of cannabinoid receptor 1 and induction of myeloid-derived suppressor cells. *J. Leukoc. Biol*. September 2015 98:435-447; DOI: 10.1189/jlb.3A0115-030RR ; www.jleukbio.org/content/98/3/435.abstract