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Kidney-transplant patients who add 100 days of medicine gain more protection

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A researcher with the Faculty of Medicine & Dentistry at the University of Alberta has discovered a way to better protect kidney-transplant patients who are at high risk for developing a life-threatening illness after surgery.

Kidney-transplant patients with no immunity to a deadly virus known as cytomegalovirus, or CMV, are typically put on a course of antiviral medication known as Valcyte for 100 days post-surgery. But Atul Humar has discovered that doubling the length of time on that medication to 200 days drops the CMV infection rates for high-risk patients significantly. The infection rates within one year post-surgery decreased by more than half, going from 36.8 per cent to 16.8 per cent.

The results of Humar's research were published in the *American Journal of Transplantation* in August. His study, which involved working with an international group of investigators and with the pharmaceutical industry, involved 326 patients at 65 centres in 13 countries around the world.

In August the U.S. Food and Drug Administration approved the increased length of drug treatment for high risk kidney-transplant patients.

"It's an exciting finding," says Humar, who was the principle investigator in the study and is the director of transplant infectious diseases with the Faculty of Medicine & Dentistry. "The better prevention strategies we

have for patients, the better it is for them. We always want to prevent these infections as opposed to treating them as they arise."

Many adults already have immunity to CMV because they have been in contact with the virus at some point in their lives. But for those who have never been exposed to CMV and have no immunity to it, the disease is easy to contract, especially for people with suppressed immune systems who are on anti-rejection drugs.

During the first six months after a kidney transplant, more than one third of patients can become sick due to CMV, which can cause complications in various organs throughout the body.

Humar says the next step is to further improve prevention efforts in high-risk transplant patients to further decrease CMV infection rates. He is currently working in the lab to study immune responses to the virus.

"I want to see if we can predict who will be at risk. We want to check patients' immunity to the virus over time and refine our prevention strategies based on that."

Provided by University of Alberta