

Anti-rejection medication and immunotherapy kicks cancer and protects kidney transplants

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Adding immunotherapy to standard anti-rejection medication could change the lives of thousands of kidney transplant patients with

incurable cancer, as new research shows it can reduce this risk of organ rejection and eliminate cancer in a quarter of patients.

Conducted by researchers at the Royal Adelaide Hospital and the University of South Australia, the world-first study showed that a dual combination of transplant anti-rejection drugs and [immune checkpoint inhibitors](#) not only reduced organ rejection rates to 12% (from 40–50%) but also eradicated cancer cells in 25% of patients.

Immune checkpoint inhibitors are drugs that block proteins called checkpoints. These checkpoints help keep immune responses from being too strong but can also keep T-cells from killing cancer cells. When these checkpoints are blocked, the T-cells can kill cancer cells more effectively.

UniSA researcher and renal specialist at the Royal Adelaide Hospital, Associate Professor Rob Carroll, says these findings are a gamechanger for [kidney transplant patients](#) with [incurable cancer](#).

"Cancer is a leading cause of death in kidney transplant recipients with the rate of cancer being three-times higher in this group, than in the [general population](#)," Assoc Prof Carroll says.

"The terrible irony is that the immunosuppressants that patients must always take to stop their immune systems attacking their transplants, are also the medicines that stops the [immune system](#) getting rid of pre-[cancer cells](#).

"To correct this imbalance, our study tested the efficacy of maintaining baseline anti-rejection drugs (to protect the transplant) and adding immune checkpoint inhibitors (to attack the cancer).

"The patients responded well with lower rates of organ rejection to 12%,

compared to previous reports and eliminating cancers cells in 25% of patients.

"It's a massive advancement for kidney transplant patients; a whole new lease on life."

Published in *Lancet Oncology*, the study assessed 22 patients with a renal transplant and incurable locally advanced or metastatic cancer that had progressed despite first-line standard anti-tumor treatment. They kept their standard anti-rejection drugs unchanged and were treated with an immune checkpoint inhibitor, nivolumab.

More information: Robert P Carroll et al, Immune checkpoint inhibitors in kidney transplant recipients: a multicentre, single-arm, phase 1 study, *The Lancet Oncology* (2022). [DOI: 10.1016/S1470-2045\(22\)00368-0](https://doi.org/10.1016/S1470-2045(22)00368-0)

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