MedicalXpress

Immune cell levels predict skin cancer risk in kidney transplant patients

January 28 2010

Measuring certain types of immune cells may predict the high risk of skin cancer after kidney transplantation, according to a study appearing in an upcoming issue of the *Journal of the American Society Nephrology* (*JASN*).

"There are differences in the immune system, and some of these are associated with the development of skin cancer after transplantation," comments Robert Carroll, MD (The Queen Elizabeth Hospital, Woodville, South Australia).

The researchers measured levels of key immune cells in 116 kidney transplant recipients, 65 of whom developed squamous cell skin cancers. "We were hoping to see if there were differences in the immune systems of patients who developed skin cancer after transplantation compared to those who did not develop skin cancer," says Carroll.

The results showed that patients with high levels of an immune cell type called T-regulatory cells, or "Tregs" together with low levels of another type of immune cell, called Natural Killer cells, had risk more than five times higher.

The high risk of skin cancers after kidney transplantation is related to the use of immunosuppressive drugs to prevent rejection. "Squamous cell cancer of the skin affects about 30 percent of kidney transplant patients after ten years of immunosuppression," Carroll explains. "A small number of patients develop multiple skin cancers per year, but

there is no laboratory test to determine which transplant recipients will develop multiple skin cancers in the future."

If confirmed by future studies, measuring immune cells could provide a valuable new approach to predicting the risk of skin cancer after kidney transplantation. "If a test can confirm high risk of skin cancer development, this may help clinicians to tailor immunosuppressive regimens for individual patients," says Carroll.

The study was limited to British transplant patients. Well-designed scientific studies will be needed to determine whether the immune system test will apply to other populations of patients around the world, with different immunosuppressive regimens and differing exposure to ultraviolet light.

More information: The article, entitled "Immune Phenotype Predicts Risk for Posttransplantation Squamous Cell Carcinoma," will appear online at January 28, 2010, doi 10.1681/ASN.2009060669

Provided by American Society of Nephrology