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TIMING OF ANTI-DONOR ANTIBODY RESPONSES AFFECTS THE SURVIVAL OF KIDNEY TRANSPLANTS

Highlight

- Kidney rejection initiated by antibodies that were present before transplantation is linked with a better outcome than rejection due to antibodies that arise after transplantation.

Washington, DC (March 2, 2017) — New research provides insights on transplant recipients' antibody responses against donor kidneys and how the timing of those responses can have important implications. The findings appear in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

An antibody response against donor organs is the main cause of kidney rejection following transplantation. Antibodies can occur in 2 scenarios: before transplantation (pre-existing donor-specific antibodies) and after transplantation (*de novo* donor-specific antibodies). Little is known about how these processes compare.

Understanding the role of antibodies in transplant rejection is needed to guide matching of donors and recipients and to better prevent rejection. A team led by Alexandre Loupy, MD, PhD, Olivier Aubert, MD (INSERM U 970, Paris Translational Research Center for Organ Transplantation, in France), and Phil Halloran, MD, PhD (Alberta Transplant Applied Genomics Centre, in Canada) studied 205 patients who experienced antibody-mediated rejection following kidney transplantation: 103 patients had pre-existing donor-specific antibodies and 102 patients had *de novo* donor-specific antibodies.

There were various differences between patients with pre-existing vs. *de novo* donor-specific antibodies, but the most striking was the superior kidney survival experienced by the pre-existing group compared with the *de novo* group (63% vs. 34% at 8 years after rejection, respectively), regardless of treatment.

“Our study highlights that rejection due to antibodies that were present before transplantation is linked with a significantly better outcome than rejection due to *de novo* donor-specific antibodies,” said Dr. Aubert.

“Our results encourage the transplantation of patients who have antibodies before transplant. These patients would not normally have been considered as good candidates for transplantation and would have stayed on dialysis because of a high level of sensitization that prevents from finding a compatible kidney,” said Dr. Loupy. The findings also indicate the need to closely monitor patients for the development of *de novo* donor-specific antibodies so that therapies can be initiated to preserve kidney function.

Study co-authors include Luis Hidalgo, PhD, Jean-Paul Duong van Huyen, MD, PhD, Sarah Higgins, MD, Denis Viglietti, MD, Xavier Jouven, MD, PhD, Denis Glotz, MD, PhD, Christophe Legendre, MD, and Carmen Lefaucheur, MD, PhD.

Disclosures: Dr. Halloran holds shares in and is CEO of Transcriptome Sciences Inc., a company with an interest in molecular diagnostics. The other authors have no competing financial interests.

The article, entitled “Antibody-Mediated Rejection Due to Preexisting versus De Novo Donor-Specific Antibodies in Kidney Allograft Recipients,” will appear online at <http://jasn.asnjournals.org/> on March 2, 2017, doi: 10.1681/ASN.2016070797.

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