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Press Release

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CLINICAL TRIAL DOES NOT SUPPORT THE USE OF BORTEZOMIB FOR KIDNEY TRANSPLANT RECIPIENTS

Therapy that looked promising in preliminary studies did not perform well in more rigorous trial.

Highlights

- In a trial of kidney transplant recipients with late antibody-mediated rejection, treatment with bortezomib, a type of proteasome inhibitor, failed to improve the function of transplanted kidneys and prevent immunologic tissue injury.
- Bortezomib treatment was also linked with gastrointestinal and hematologic toxicity.

Washington, DC (December 14, 2017) — A new clinical trial looks at the potential of a new treatment for transplant rejection. The findings, which appear in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN), do not support the use of bortezomib in kidney transplant recipients.

Kidney transplantation is the optimal treatment for patients with kidney failure, but many transplanted organs fail if the recipient's immune system mounts antibodies against donor proteins. Although several strategies for treating early antibody-mediated rejection in kidney transplants have been investigated, there is a need for clinical trial to test potential therapies for late antibody-mediated rejection.

In a clinical trial of 44 kidney transplant recipients diagnosed with late antibody-mediated rejection, a team led by Georg Böhmig, MD and Farsad Eskandary, MD (Medical University of Vienna, in Austria) tested the potential of bortezomib, a promising compound that may directly target immune cells producing deleterious antibodies.

Bortezomib is a type of proteasome inhibitor, which blocks cellular complexes that break down proteins. Experimental data suggest that proteasome inhibition targets the cells that produce antibodies against proteins from donor tissue. While preliminary studies have suggested that bortezomib may be effective against organ rejection, in this randomized, placebo-controlled clinical trial, treatment failed to improve the function of transplanted kidneys and prevent immunologic tissue injury. Bortezomib was also linked with gastrointestinal and hematologic toxicity.

“This trial may argue against the use of bortezomib in transplant rejection and underscores that, even today, we have no adequate treatment for chronic rejection,” said Dr. Böhmig. “Future trials will have to be designed to clarify the efficiency of new treatment strategies that are currently in the pipeline.”

Study co-authors include Heinz Regele, MD, Lukas Baumann, Gregor Bond, MD, PhD, Nicolas Kozakowski, MD, Markus Wahrmann, PhD, Luis Hidalgo, PhD, Helmuth Haslacher, MD, Christopher C. Kaltenecker, Marie-Bernadette Aretin, Rainer Oberbauer, MD, PhD, Martin Posch, PhD, Anton Staudenherz, MD, Ammon Handisurya, MD, Jeff Reeve, PhD, and Philip Halloran, MD, PhD.

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The article, entitled “A Randomized Trial of Bortezomib in Late Antibody-Mediated Kidney Transplant Rejection (BORTEJECT),” will appear online at http://jasn.asnjournals.org/ on December 14, 2017, doi: 10.1681/ASN.2017070818.

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