MedicalXpress

Antibody response linked with rejection in pediatric kidney transplant recipients

February 28 2013

A transplanted kidney has a finite life expectancy because it often becomes the target of the recipient's immune system, which may mount antibodies that attack the organ. Because there is a critical need to extend the life of transplanted organs—especially in children, who can face two to three kidney transplants in their lifetime—researchers recently examined the role of this antibody-mediated injury in rejection and the effectiveness of medications to prevent it. Their findings are reported in the *Journal of the American Society of Nephrology* (*JASN*).

Minnie Sarwal, MD, FRCP, PhD (California Pacific Medical Center) and her colleagues mapped the antibody immune response in 130 children who received kidney transplants through 12 different US transplant programs participating in a trial comparing complete steroid avoidance after transplantation and standard steroid therapy after transplantation. (Some patients received long-term steroids after transplantation as a treatment to potentially protect the new organ from antibody-mediated injury, while others received no steroids.) Patients were monitored for two years after transplantation.

"The development of antibodies were confirmed to injure the transplant, though the incidence of this antibody-mediated injury to the transplant was quite low at only about 6%," said Dr. Sarwal. Patients with these antibodies were more likely to experience organ injury and rejection than patients without these antibodies.

Also, steroids did not seem to provide a benefit. "There was no

difference in the immune response in children who did not receive steroids, though there was a huge benefit in their growth, in lower blood pressures, and lower cholesterol levels, supporting the importance of avoiding steroids in children after transplantation wherever possible," she added.

The researchers recommend monitoring recipients for the presence of antibodies directed against transplanted organs at various stages and customizing immunosuppressive treatments to prevent rejection.

More information: The article, entitled "Humoral Immunity Associates with Outcomes in Pediatric Renal Transplantation," will appear online on February 28, 2013, doi: 10.1681/ASN.2012070663

Provided by American Society of Nephrology

Citation: Antibody response linked with rejection in pediatric kidney transplant recipients (2013, February 28) retrieved 18 April 2024 from https://medicalxpress.com/news/2013-02-antibody-response-linked-pediatric-kidney.html

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