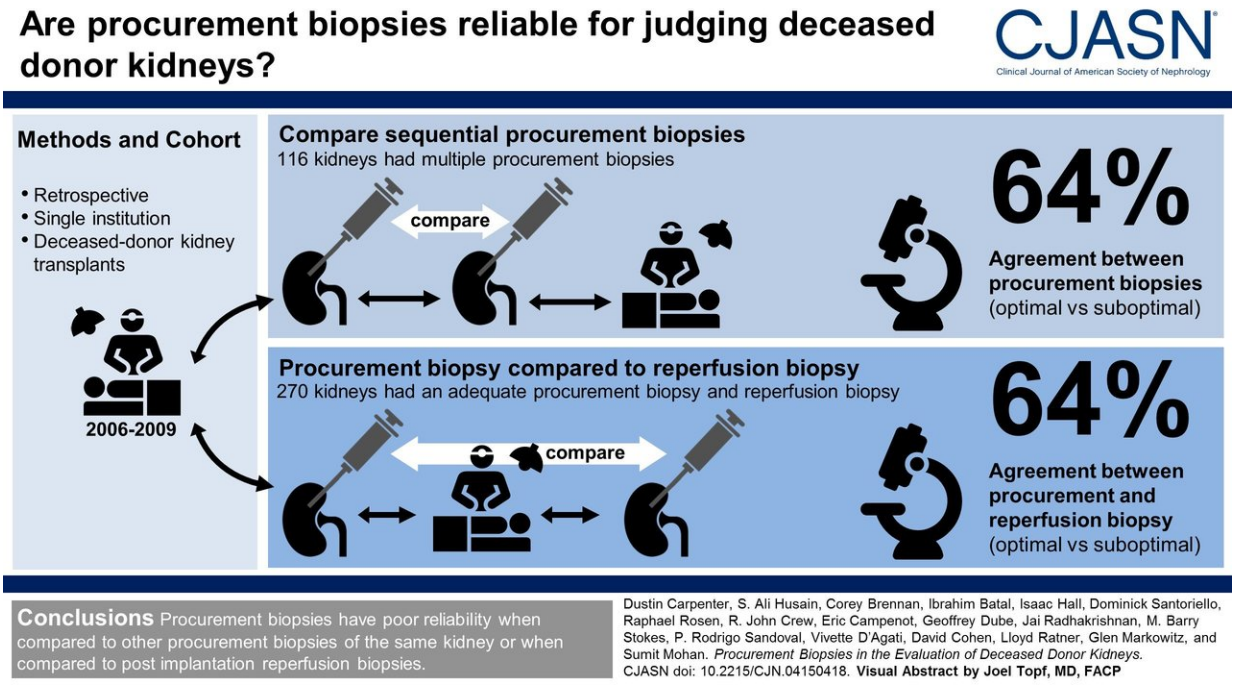
Method for determining donor kidneys' suitability for transplantation may be flawed

October 25 2018



Credit: Mohan/Husain

New research indicates that many kidneys obtained for transplantation from deceased donors are not being used because of biopsy findings despite their unreliability and reproducibility. The findings, which appear in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (*CJASN*) and will be published at ASN Kidney Week 2018, may suggest an urgent need to re-examine the role of such

biopsies in the allocation of kidneys.

Kidneys obtained from deceased donors for transplantation are a scarce and valuable resource, yet 20% of kidneys are discarded—most commonly due to findings noted on biopsies taken when the kidney is procured from the donor. Such procurement biopsies are often read by pathologists with limited training or experience in pathology of the kidney.

To study the predictive value and reproducibility of procurement biopsies for deciding which kidneys should be transplanted and which should be discarded, a team led by Sumit Mohan, MD, MPH and S. Ali Husain, MD, MPH (Columbia University Vagelos College of Physicians and Surgeons and the Mailman School of Public Health) examined information on nearly 300 deceased-donor kidneys that were transplanted at their institution from 2006-2009. The organs had undergone both a procurement biopsy and a reperfusion biopsy, the gold standard as it is done as a core needle biopsy read by an experienced pathologist using paraffin embedded tissue and multiple stains.

The investigators found that the agreement between the procurement biopsies and the reperfusion biopsies was poor. Also, the procurement biopsies were not as accurate as reperfusion biopsies for predicting transplant success after organs were transplanted into patients. The researchers also studied a subset of 116 kidneys that underwent more than one procurement biopsy during the allocation process, and they found significant disagreement between sequential procurement biopsies on the same kidney, underscoring the poor reproducibility of the procurement biopsy.

"Limited reliance on procurement biopsy histology will likely result in an improvement in organ utilization by reducing the discard of kidneys attributable to these findings," said Dr. Mohan. "This has the potentially

to improve organ allocation efficiency and dramatically increase the number of kidney transplants being performed in the United States."

The investigators noted that efforts to improve the predictive value of biopsies could include requiring biopsy review by experienced kidney pathologists, standardizing biopsy techniques and biopsy reporting, and better integrating biopsy data with other clinical information. "We believe that prospective and randomized studies are needed to definitively understand the role of procurement biopsies, if any, in efficient and appropriate organ allocation and utilization," said Dr. Husain.

More information: "Procurement Biopsies in the Evaluation of Deceased Donor Kidneys," *Clinical Journal of the American Society of Nephrology* (2018). DOI: 10.2215/CJN.04150418

Provided by American Society of Nephrology