

Targeting certain kidney cells may help treat kidney failure

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New research reveals that certain cells contribute to kidney function decline, making them attractive targets for treatments against kidney failure. The findings will appear in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)*.

The blood-filtering cells in the kidneys—called podocytes—are critical to [kidney function](#), and [kidney failure](#) can occur when as little as about 20% to 30% of them are lost. Marcus Moeller, MD, Bart Smeets, PhD, Katja Berger (RWTH University of Aachen, in Germany), and their colleagues looked to see if they could coax podocytes to be generated from putative kidney progenitor cells—termed parietal cells—as a potential treatment strategy for kidney failure.

Through experiments conducted in mice, the researchers found that podocytes cannot be renewed from parietal cells. In fact, after the loss of podocytes, parietal cells play a negative role by causing kidney scarring that contributes to progressive kidney function decline. "This opens a very important new strategy to prevent loss of kidney function: by inhibiting the parietal cells from doing their destructive work," said Dr. Moeller.

The researchers did, however, detect an additional but limited reserve of podocytes that are present at birth and become mature and functional filter cells by adulthood.

"Our results indicate that research efforts should be directed towards

preserving our limited pool of filter cells and to develop pharmacological strategies to inhibit scarring of the kidney by parietal cells," said Dr. Moeller.

More information: The article, entitled "The Regenerative Potential of Parietal Epithelial Cells in Adult Mice," will appear online on January 9, 2014.

Provided by American Society of Nephrology

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