



NEPTUNE Review

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A mysterious factor in the blood of patients with focal segmental glomerulosclerosis (FSGS)?

In some patients, focal segmental glomerulosclerosis (FSGS) can come back after a kidney transplant. There could be molecules retained in the bloodstream of individuals with FSGS that cause undesirable changes when they come in contact with the transplanted kidney. Researchers want to learn whether healthy kidney tissue and kidney cells could show signs of kidney disease, after coming in contact with blood from patients with FSGS.



Sandra Merscher, Ph.D., from the University of Miami, is the lead researcher for this project.

How samples from NEPTUNE study participants can help identify new kidney disease-related genes.

The NEPTUNE study collects blood and kidney biopsy tissue from participants. A technology called microarray allows researchers to measure genes that are activated or turned on, in kidney biopsies or cells. Researchers used microarray technology to measure genes that are turned on in FSGS using biopsy tissue from NEPTUNE compared to biopsy tissue from newly transplanted kidneys.

Also, the blood of some NEPTUNE study participants with FSGS and other patients with FSGS who recently received a kidney transplant were added to petri dishes containing kidney cells. The microarray technology was again used to compare genes that were turned on in the kidney cells before and after coming in contact with the FSGS blood. Some of the same genes that were turned on in the cells by the FSGS blood samples were also turned on in the kidneys of patients with FSGS.

Among these were genes known to be involved in kidney inflammation. These findings point to the presence of circulating molecules in the blood that may cause an inflammatory response in transplanted kidneys contributing to the recurrence of kidney disease. This is the first step in finding a way to predict the risk for recurrence of kidney disease after transplantation. Learning more about the presence of such factors, and how they affect the kidneys could help doctors develop more effective and tailored treatment plans for patients with FSGS, in the future.

Visit our website: neptune-study.org

Please address any questions/suggestions to your coordinator to give to the NEPTUNE R&R Committee
