

Kathleen M. Campbell, MD

Assistant Professor

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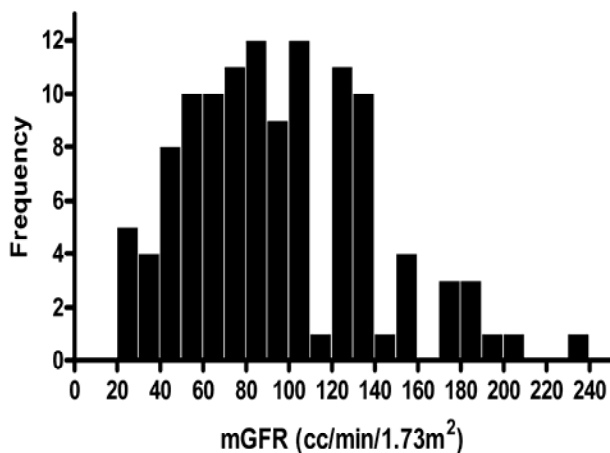
Description of Research:

Dr. Campbell is investigating the clinical and genetic determinants of post-transplant renal dysfunction in liver transplant recipients. Her research focuses on the pharmacogenetic factors which affect calcineurin inhibitor metabolism. This line of work constitutes a first step toward individualizing immunosuppression in transplant recipients based on the patient's genetic makeup. Additionally, Dr. Campbell is working with the Renal Function Working Group of the NIH-funded Studies of Pediatric Liver Transplantation Consortium to fully define the clinical factors highly associated with post-transplant renal disease. To incorporate novel biological markers of post-transplant renal dysfunction, she is performing proteomic analysis of urine samples from children at different times following liver transplantation to determine subclinical nephrotoxicity due to acute and chronic exposure to calcineurin inhibitors. This is an extremely important line of research that is becoming a critical medical problem in long-term survivors of liver transplantation.

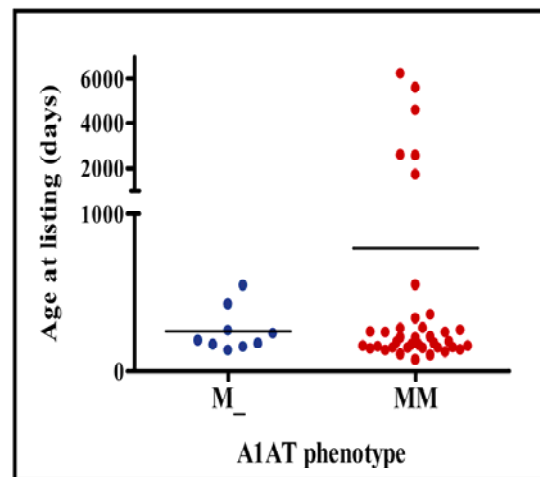
Collaborations:

Dr. Campbell used the **Bioinformatics and Integrative Morphology Cores** in collaboration with Dr. Bezerra to study the transcriptional consequences of chronic biliary obstruction using bile duct ligation model and an animal model of biliary atresia. She has also collaborated with Dr. Bezerra in studies investigating the pathogenesis of biliary atresia and the role of alpha-1-antitrypsin polymorphisms as modifiers of pediatric liver disease. Dr. Campbell is also collaborating with Dr. Bucuvalas using pharmacogenomics approach to identify genetic predictors of renal disease following pediatric liver transplantation. These ongoing studies will greatly benefit from the biostatistical services of the future **Clinical Component** of the Administrative Core.

Representative Figure:



Distribution of mean glomerular filtration rates in 117 patients ≥ 3 years post-liver transplant. Fig. 2 from J. Pediatr, 2006 148:475-80.



Scatter plot of age at transplant listing for all patients with biliary atresia as a function of A1AT phenotype (M₋ means heterozygous with non-M/non-Z allele). J Pediatr Gastroenterol Nutr, in press.