

Submitting an Abstract for STATGEN2024

Presentation title:

Assessing the Evidence for a Causal Effect of Fibromuscular Dysplasia on Chronic Kidney and Biomarkers of Kidney Function: A Mendelian Randomization Study

Abstract (max 1200 characters):

Fibromuscular dysplasia (FMD) is a noninflammatory and nonatherosclerotic disease of artery walls that often affects medium-sized artery beds, including those of the renal arteries (Olin and Sealove 2011; Mousa and Gill 2013; Sang et al. 1989). Multiple studies and case reports have implicated renal artery FMD in impaired kidney function (Hunt et al. 1965; Oliva-Damaso et al. 2018; Mounier-Vehier et al. 2002; Twist, Leeuw, and Kroon 2018). We sought to quantify the causal effects of: FMD on chronic kidney disease, FMD on plasma Cystatin C level, and FMD on plasma creatinine level. We used publicly available summary statistics in a two-sample Mendelian randomization study. Specifically, we used genetic instruments for FMD from a meta-analysis of six genome-wide association studies of multifocal FMD (Georges et al. 2021). For each putative outcome variable, we performed a two-sample Mendelian randomization analysis with inverse-variance weighted, weighted median, and MR-Egger methods. We obtained association effect estimates for putative outcomes from publicly available summary statistics from UK Biobank GWAS (“UK Biobank GWAS” 2018).

References

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