Assessing Evidence That Fibromuscular Dysplasia Causes Chronic Kidney Disease: A Two-Sample Mendelian Randomization Study

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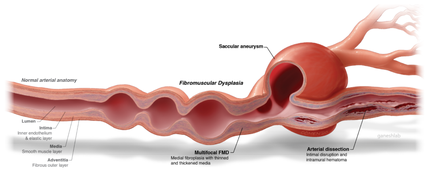
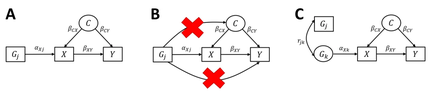
Introduction

Fibromuscular dysplasia (FMD) is a systemic disease of artery walls that decreases target organ perfusion. Case studies have identified **chronic kidney disease (CKD)** as a possible consequence.



- The first item.
- The second item.
- The third item.

Mendelian Randomization



[Lee+22]

FMD GWAS Meta-analysis [Geo+21]

- Six case-control studies from USA and Europe
- 1556 cases & 7100 controls
- Tested 5.5 million SNPs
- Identified four risk loci for FMD: *PHACTR1, LRP1, LIMA1, ATP2B1*

CKD GWAS [18]

We failed to detect a causal effect of FMD on CKD. However, due to the **small number of relevant SNPs**, we had **limited power.**

Take a picture to download the full paper

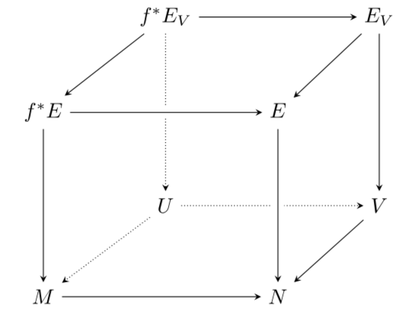
References

[18] *UK Biobank GWAS*. http://www.nealelab.is/uk-biobank/. Accessed: 2024-04-15. Aug. 2018.

[Geo+21] Adrien Georges et al. "Genetic investigation of fibromuscular dysplasia identifies risk loci and shared genetics with common cardiovascular diseases". In: *Nature communications* 12.1 (2021), p. 6031.

[Lee+22] Christiaan de Leeuw et al. "Understanding the assumptions underlying Mendelian randomization". In: *European Journal of Human Genetics* 30.6 (2022), pp. 653–660.

Here you can add **supplementary material**. For instance, a new diagram:



Some cute ducklings: