DR. WEINBERG REPLIES

I thank Dr. Gillman for his letter (1) on the paper by Tu et al. (2) and my accompanying commentary (3). Dr. Gillman reinforces my point that inferences about causality are too complex to be trusted to a statistical model. Length of gestation may be the most important correlate of birth weight, and it may also be more important than weight-for-gestational-age for predicting outcomes. Regarding my suggesting research on dizygotic twins (3), I believe that interventions generally provide stronger evidence for causal relations than do cross-sectional correlations. Many babies born small for their gestational age may have been born at or above their own optimum weight. Conversely, many infants born large may have been growth-restricted in comparison with their own optimum weight. Given that what we can learn from cross-sectional data is constrained, natural “experiments,” such as dizygotic twinning, famines, or pregnancy at high elevations, may provide insight into effects of actual fetal growth restriction. However, it is also true that each of these “experiments” perturbs fetal life in complex ways, and the inference, while interesting, does not lead ineluctably to new insight regarding effects of fetal growth restriction on later health. My point was not to advocate twinning research but to argue that the inferential issues regarding the fetal origins hypothesis go well beyond those related to adjustments in statistical models.

ACKNOWLEDGMENTS

Conflict of interest: none declared.

REFERENCES


Clarice R. Weinberg
Environmental Diseases and Medicine Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC 27709

DOI: 10.1093/aje/kwi197