Re: Impaired maternal hemodynamics in morbidly obese women: a case–control study

We read with great interest the study of Vinayagam et al., in which cardiac function was found to be significantly altered in morbidly obese women. While we believe the results of the study are interesting and may provide some insights into the predisposition of morbidly obese women to pre-eclampsia, this study has certain flaws.

Our major concern with the analyses in the study was that correcting the hemodynamic parameters for body surface area (BSA) and then comparing these standardized measures between body mass index (BMI) categories seems inappropriate, since both BSA and BMI depend on the same anthropometric parameters, height and body mass. While the authors rationalize this adjustment somewhat, comparing standardized measures in unstandardized groups based on the same prognostic parameters (height and weight, in this case) is a methodological flaw, and biases the results towards positive findings. Instead, it would be more appropriate to conduct a multivariate regression model, which would control for the interactions between unadjusted hemodynamic parameters and anthropometric measurements. We would have preferred elucidation of the independent prognostic value of obesity on maternal hemodynamic parameters controlled for anthropometric measurements. This approach would be more conclusive, and would provide higher-quality data on this critical issue.

Reference