

COMMENTS AND RESPONSES

Comment on: Rowan et al. Metformin in Gestational Diabetes: The Offspring Follow-Up (MiG TOFU): Body Composition at 2 Years of Age. Diabetes Care 2011;34:2279-2284

The recent article by Rowan et al. (1) reports decreased biceps and subscapular skinfold thicknesses in the 2-year-old offspring of women randomized to receive metformin rather than insulin treatment for their gestational diabetes. Body fat percentage, measured by bioimpedance and dual-energy X-ray absorptiometry, was similar in the two groups, suggesting that metformin treatment is associated with a more metabolically favorable distribution of body fat in the offspring, while not changing total body fat per se.

As metformin crosses the placenta and could plausibly alter long-term offspring metabolic phenotype, this study is of particular interest to those physicians and obstetricians who are reluctant to use metformin because of the lack of long-term offspring data. However, a few points are worth noting.

First, the measurement of skinfold thickness was not blinded to the treatment group of the mother. Secondly, while the investigators collected information on dietary content and physical activity of the offspring, this was not included in the results; it would be interesting to determine if the metformin-exposed offspring were different in this respect. Lastly, in the original study (the Metformin in Gestational diabetes [MiG] study) (2), approximately half of the metformin-treated mothers also required insulin in order to achieve target glucose levels during pregnancy. In the Offspring Follow-Up (TOFU) study, the proportion of offspring in the metformin group whose mothers required additional insulin treatment is not stated. Although glucose levels during treatment did not differ between metformin \pm insulin and insulin-only pregnancies, it would be reassuring to verify that the metformin-only pregnancies were not over-represented in the metformin follow-up cohort, especially as the follow-up rate was 42% in this group.

While the TOFU study does not provide conclusive proof that metformin

in pregnancy has beneficial effects on 2-year-old offspring, the results are reassuring for its short-term safety, and the results of the next follow-up study will be most interesting.

SUE MEI LAU, MBBS, FRACP, PHD

From the Department of Diabetes and Endocrinology, Prince of Wales Hospital, Sydney, Australia; the Faculty of Medicine, University of New South Wales, Sydney, Australia; and the Diabetes and Transcription Factors Group, Garvan Institute of Medical Research, Sydney, Australia.

Corresponding author: Sue Mei Lau, s.lau@garvan.org.au.

DOI: 10.2337/dc11-2241

© 2012 by the American Diabetes Association. Readers may use this article as long as the work is properly cited, the use is educational and not for profit, and the work is not altered. See <http://creativecommons.org/licenses/by-nc-nd/3.0/> for details.

Acknowledgments—No potential conflicts of interest relevant to this article were reported.

References

1. Rowan JA, Rush EC, Obolonkin V, Battin M, Woudes T, Hague WM. Metformin in Gestational diabetes: The Offspring Follow-Up (MiG TOFU): body composition at 2 years of age. *Diabetes Care* 2011;34:2279–2284
2. Rowan JA, Hague WM, Gao W, Battin MR, Moore MP; MiG Trial Investigators. Metformin versus insulin for the treatment of gestational diabetes. *N Engl J Med* 2008;358:2003–2015