Gestational diabetes therapy:

Right person, right treatment, 'night' time.

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We thank Foussard et al for their insightful comments (1) on our recent paper (2). We demonstrated that women with gestational diabetes who subsequently have a large for gestational age infant (LGA), run significantly higher glucose overnight, detectable by continuous glucose monitoring (CGM), at 32 weeks gestation than those women who do not go on to have LGA (2). We speculate that there may be several reasons why this is observed.

Foussard et al (1) suggest that irrespective of the cause, NPH insulin administered in the evening, should be considered the treatment of choice due to its peak action coinciding with the relative nocturnal hyperglycemia we demonstrated. Our own clinical practice has been to use a long acting insulin analogue (e.g. detemir or glargine) overnight to target a raised fasting self-monitored blood glucose (SMBG), and quick acting analogue insulin with meals to specifically target 1hr postprandial SMBG.

None of the women in the current study were therefore treated with NPH insulin, so we are unable to evaluate Foussard's valid hypothesis regarding the potential efficacy of NPH at targeting nocturnal hyperglycemia. It is worth noting that in our study, fewer women in the LGA group were being treated with insulin (n=1; 7%) at the time of CGM, compared to the women who subsequently didn't have LGA (n=20; 14%). There were similar numbers of women with and without an LGA infant on Metformin (57% vs 54%). Although we are clearly underpowered to draw definitive conclusions, this perhaps suggests that long acting analogue insulin was effective at preventing a higher glucose overnight.

The effects of different insulin on glucose control and outcomes have been studied in pregnancies affected by diabetes. It is interesting that in GDM and T2DM pregnancies when NPH and detemir are compared NPH is associated with more hypoglycaemia (3). In T1DM pregnancy detemir has been shown to be more effective at lowering fasting SMBG than NPH (4), and when detemir and glargine have been compared then glargine is associated with a lower prevalence of LGA in T1DM, with no difference observed in glucose control (5). None of these studies included CGM and whilst their impact on nocturnal glucose control alone cannot be specifically addressed they illustrate that the effect of any insulin needs to be considered in the context of managing the whole pregnancy.

We believe the real challenge lies not in which treatment to choose, but in detecting the need for additional treatment in the first place. Only then can we personalise therapy to the glucose profile in the right woman at the right time.

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