

Falling insulin requirement linked to placental dysfunction

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(HealthDay)—For pregnant women with pre-existing diabetes, falling

insulin requirement (FIR) is associated with altered expression of placental antiangiogenic factors and preeclampsia, according to a study published online Aug. 10 in *Diabetes Care*.

Suja Padmanabhan, M.B.B.S., M.P.H., from Westmead Hospital in Sydney, and colleagues conducted a multicenter cohort study involving 158 [pregnant women](#) with pre-existing diabetes (41 with type 1 and 117 with type 2). Thirty-two women had FIR of ≥ 15 percent from the peak total daily dose after 20 weeks of gestation and were considered case subjects. The primary outcome was a composite of clinical markers of placental dysfunction.

The researchers found that FIR ≥ 15 percent correlated with an increased risk of the composite primary outcome (odds ratio, 4.38) and [preeclampsia](#) (odds ratio, 6.76), and was more common among women with type 1 diabetes (36.6 versus 14.5 percent). Women with FIR ≥ 15 percent had modestly elevated creatinine; no difference was seen in hemoglobin A1c. Among women with FIR at 25, 30, and 36 weeks, the ratio of soluble fms-like tyrosine kinase 1 to placental growth factor was significantly higher, with differences maintained among those who developed preeclampsia. No difference was seen in placental hormones between the groups.

"FIR is an important clinical sign, among [women](#) with pre-existing diabetes, that should alert the clinician to investigate underlying placental dysfunction," the authors write.

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