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Premature Recommendation of Corticotropin-Releasing Hormone as Screen for Postpartum Depression

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Yim and colleagues¹ recently reported a positive association between maternal plasma levels of corticotropin-releasing hormone (CRH) at midpregnancy with risk of maternal depression at roughly 9 weeks postpartum. Their longitudinal cohort of 100 women yielded 16 cases of postpartum depression (PPD) at 9 weeks postpartum, as measured by the Edinburgh Postpartum Depression Scale with a threshold of 10 or greater to indicate probable minor depression. Yim and colleagues conclude that “midpregnancy pCRH [placental CRH] is a sensitive and specific early diagnostic test for PPD symptoms.”^{1(p162)}

In 2008, we published quite different results from a longitudinal analysis of CRH and perinatal depression in a demographically similar cohort, Project Viva.² Among 600 participants, we detected 46 cases of PPD at 6 months postpartum, employing the more commonly used Edinburgh Postpartum Depression Scale threshold of 13 or greater to indicate probable major depression. For a 1-SD increase in midpregnancy log CRH, we observed an 18% decrease in the odds of PPD that lacked statistical significance (95% confidence interval, 0.58–1.15). When we excluded 20 women who were prescribed antidepressants during pregnancy, which may have disrupted CRH levels, we found a statistically significant 31% lower risk of PPD per standard deviation increase in log CRH (odds ratio, 0.69; 95% confidence interval, 0.48–0.99).

Like Yim and colleagues, we originally hypothesized that higher CRH levels would predict higher risk of PPD. Our unexpected finding that higher CRH levels were associated with lower PPD risk may reflect the tendency of PPD to present as atypical,³ possibly characterized by low levels of hypothalamic-pituitary-adrenal activation. This is consistent with the blunted hypothalamic-pituitary-adrenal activity in PPD observed by Magiakou.⁴

There are now 2 contradictory studies of midpregnancy CRH levels and risk of PPD. Before anyone recommends screening tests, the research community would do well to replicate these investigations—preferably with gold-standard clinical diagnoses of PPD that can distinguish between melancholic and atypical depression—to determine whether, and in which direction, midpregnancy CRH levels predict PPD.

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