

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/advances-in-womens-health/predicting-ppd-risk-a-biomarker-based-approach/56553/>

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Predicting PPD Risk: A Biomarker-Based Approach

Announcer:

This is *Advances in Women's Health* on ReachMD. On this episode, we'll hear from Dr. Jennifer Payne, who's the Director of the Reproductive Psychiatry Research Program and a professor in the Department of Psychiatry and Neurobehavioral Sciences at the University of Virginia School of Medicine in Charlottesville. She'll be sharing insights on the use of epigenetic biomarkers to predict postpartum depression risk. Here's Dr. Payne now.

Dr. Payne:

Hormonal shifts during pregnancy and postpartum appear to influence epigenetic regulation at the gene level. We have identified a small number of genes that are methylated in a particular pattern when someone is more likely than not to go on and develop postpartum depression. Because we've identified these epigenetic biomarkers, we are trying to develop a blood test that is predictive of who is at elevated risk.

We identified two genes HP1BP3 and TTC9B that are methylated in a particular way when someone is at elevated risk of developing postpartum depression. And so we are able to take blood samples during the third trimester and predict with about 80 percent accuracy who's at elevated risk and who's at low risk of developing postpartum depression in the setting of the reproductive hormonal changes that occur at delivery.

We've also found that those same genes are methylated in a particular pattern when a woman is going to develop depressive symptoms during pregnancy. So if we take blood in the first trimester, we can see a biomarker pattern that is consistent with increased risk of developing antenatal depression.

Now, we are currently validating these biomarkers in two large studies. We've validated these biomarkers so far in six different samples, and an outside group has also validated this work. But we need to validate it in a larger sample size in order to get FDA approval for the blood test to be used clinically.

There are a number of ethical concerns. A positive biomarker test is not destiny, and a negative biomarker test does not mean that an individual will not develop postpartum depression. I also think there's a risk of labeling or stigmatizing patients who have a positive biomarker test. There are also implications that, if a woman tests positive for the biomarker, she may get more anxious than she would have otherwise about developing postpartum depression. It's important that education for both the provider and the patient is a big part of the rollout of this test clinically. And then finally, there is, of course, data privacy and epigenetic information handling questions that need to be addressed before we institute this as clinically available.

There's several things here that I'm very excited about. First of all, we may be able to, at least for postpartum depression, turn psychiatry from a reactive field into a preventive field. This would be the first blood test that is predictive of a future mental illness that can be prevented. Another thing that I'm very excited about is the fact that having a blood test for a mental illness would likely reduce stigma, at least for postpartum depression, if not for psychiatric illness across the board. Many people still mistakenly think that psychiatric illness is all in someone's head, and having the biological basis be clear and having a blood test, I think, would go a long way towards reducing stigma. Finally, I think this blood test is hopefully just the beginning of a number of biomarker-based identification strategies for psychiatric illness. And I'm very hopeful that in the future, we'll be able to predict other kinds of psychiatric illness and prevent onset.

Announcer:

That was Dr. Jennifer Payne discussing the potential to predict postpartum depression with a blood test. To access this and other episodes in our series, visit *Advances in Women's Health* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for

listening!