Transcript Details

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Maternal Stroke: Causes, Risks, and Care in Pregnancy and Postpartum

Announcer:
You're listening to *NeuroFrontiers* on ReachMD. On this episode, we'll discuss the risk and management of stroke in pregnant and postpartum patients with Dr. Eliza Miller. Dr. Miller is an Associate Professor of Neurology in the Division of Stroke and Cerebrovascular Disease at Columbia University. She also presented a session on this exact topic at the 2024 AAN Annual Meeting. Let's hear from her now.

Dr. Miller:
My session at AAN is part of the case studies in pregnancy educational session, and the lecture I'm giving is about stroke in pregnancy and postpartum. And this is a very important topic because stroke is actually a major cause of maternal morbidity and mortality during pregnancy, particularly in the postpartum period. It is one of the leading causes of death in pregnancy in the United States, and it's definitely one of the leading causes of disability as well. In terms of what the causes of stroke in pregnancy are, it's interesting because if you look at stroke in the general population, you see that about 85 percent of strokes are ischemic strokes, and the remaining 15 percent are hemorrhagic strokes, meaning subarachnoid hemorrhage and intracerebral hemorrhage; but if you look in the case of pregnancy-related stroke, about half of them are hemorrhagic, which means that the mechanisms of stroke in pregnancy are different often than the typical mechanisms of stroke that we see in nonpregnant individuals or non-postpartum individuals.

So some of the major mechanisms of stroke that we see in pregnancy are intracerebral hemorrhage, firstly. So intracerebral hemorrhage is often due to uncontrolled hypertension and often happens in the peripartum or immediate postpartum period, so one of the cases that I will be discussing in the session is a case of intracerebral hemorrhage in the postpartum period in the setting of preeclampsia. Another cause of stroke in pregnancy is cerebral venous sinus thrombosis, and this is the one that a lot of people kind of jump to first thinking this is probably the most common cause because pregnancy is a hypercoagulable state, and we certainly do see that as a cause of stroke in pregnancy in the postpartum period. However, I think some of the other causes are sometimes underrecognized. For example, cervical artery dissection can cause stroke in pregnancy and the postpartum period, and then, of course, causes such as cardioembolism. Other causes such as the reversible cerebral vasoconstriction syndrome is a common cause of both ischemic and hemorrhagic stroke in pregnancy in the postpartum period.

In terms of when is the highest risk of stroke that's associated with pregnancy, that would really have to be the immediate postpartum period, and I think that that's really the most dangerous time and often the time when people are the most at risk because they're sometimes more reluctant to seek medical attention. For example, if you just had a baby and you went home and then you develop a really terrible headache and feel awful, you might not immediately go back to the emergency room or to labor and delivery because you have a newborn at home, and you don't really want to leave that baby, so this can result sometimes in people presenting late, especially if patients don't recognize that this could be a sign of stroke. And this is particularly the case when people have, for example, the worst headache of life, which, of course, we all know can be a sign of hemorrhagic stroke or venous sinus thrombosis, and then they might, if anything, call their doctor, say, "I have a really terrible headache," but that might not be recognized always as a sign. It might be thought, for example, that it's migraine or that they're just overwhelmed in the postpartum period and not be recognized that this is actually a warning sign for stroke.

In the third trimester, we may see more of the ischemic strokes, and we also see that in the immediate postpartum period in the first six weeks or so. And the hypercoagulability of pregnancy actually doesn't resolve until about 12 weeks postpartum, so there's still an elevated risk of thromboembolic events up to 12 weeks postpartum. It's highest in the first week or two postpartum, but it continues to be elevated from baseline out to about 12 weeks.

The treatments for stroke in pregnancy and postpartum are very similar to the treatments for stroke outside of pregnancy and postpartum. And, of course, it depends what type of stroke you're talking about. So for example, if stroke is caused by a venous sinus thrombosis, the treatment is going to be anticoagulation. If stroke is caused by an embolic event, the treatment would be thrombolysis or mechanical thrombectomy in most cases if the person is eligible for that, and pregnancy is not a contraindication to either of those conditions. That said, I would never give thrombolysis to a pregnant individual without speaking with an obstetrician first because there may be certain conditions that the person's experienced during pregnancy. So for example, a subchorionic hematoma, which is not something as neurologists we generally think about very much, or a placenta accreta. These are conditions that would be very high risk for bleeding, and so you would want to speak with the obstetrician and make sure that there's been no complication like that. It gets really complicated when the person's actually in labor, and then it really has to be a discussion with OBGYN or a maternal fetal medicine to figure out what's the best way to approach it.

I also think it's really important that neurologists have a good understanding of pregnancy-specific disorders and, in particular, hypertensive disorders or pregnancy, like preeclampsia, because many of the signs and symptoms of preeclampsia are actually neurological, and so a person may be presenting with elevated blood pressure and severe headache and potentially vision changes, and this would be actually diagnostic of preeclampsia in some cases if there's not another explanation for that headache. And so really understanding a little bit more about the pathophysiology of preeclampsia and its related disorders is very important for neurologists and often missing from standard neurology curricula and training, so this is, I think, an opportunity in this session to talk a little bit more about these pregnancy-specific disorders that we don't get as much exposure to in our neurology training.

Announcer:
That was Dr. Eliza Miller talking about her presentation at the 2024 AAN Annual Meeting that focused on stroke in pregnant and postpartum patients. To access this and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!