

Quantum biology modeling that incorporates theoretical outcomes from interactions and imbalances between neurohormones identifies aldosterone as the near certain source for most preeclampsia and the likely cause of CVD in pregnant women in the US.

https://www.medpagetoday.org/obgyn/pregnancy/79780?xid=nl_mpt_DHE_2019-05-13&eun=g407160d0r&utm_source=Sailthru&utm_medium=email&utm_campaign=Daily%20Headlines%202019-05-13&utm_term=NL_Daily_DHE_Active

ACOG Plan Addresses Cardiovascular Disease as Top Killer of Pregnant Women in U.S.

-Comprehensive plan to save moms in the wake of data showing that CVD accounts for 26.5% of pregnancy-related deaths

by Zeena Nackerdien , CME Writer, MedPage Today May 12, 2019

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Target Audience and Goal Statement: Obstetricians, gynecologists, cardiologists, family medicine physicians, internists

The goal was to learn more about a practice bulletin that reviewed available evidence, proposed strategies for obstetric-related critical care, and highlighted gaps in care related to pregnancy and heart disease in the U.S.

Question Addressed:

- What guidance can be provided to address the fact that cardiovascular disease (CVD) is now the leading cause of death during or after pregnancy in the U.S.?

Synopsis and Perspective:

Despite spending nearly [twice](#) as much as comparable countries on health care, the [gap](#) in health outcomes between the U.S. and the rest of the world seems to be growing. Nowhere is this more evident than when using maternal mortality as a health

outcome measure. This headline encapsulates a national tragedy: [the U.S. has the worst rate of maternal deaths in the developed world](#). Of the 700 expectant mothers who die every year due to pregnancy-related issues, nearly 31% die during pregnancy, 36% die during delivery or the week after, and 33% die up to one year after delivery, according to the [CDC](#).

Action Points

- Cardiovascular disease (CVD) -- now the leading cause of death during pregnancy and in the postpartum period -- accounts for 26.5% of pregnancy-related deaths in the U.S.; 23% of these deaths are attributable to peripartum cardiomyopathy, which usually develops postpartum.
- Realize that there is a pressing need to improve screening for CVD and tailoring management to each patient during and after pregnancy.

"The rise we're seeing in maternal deaths is largely due to acquired cardiac disease during pregnancy," [according](#) to Lisa Hollier, MD, MPH, [The] American College of Obstetricians and Gynecologists (ACOG) president, and lead author of a practice bulletin, *Pregnancy and Heart Disease*, discussed at the [2019 ACOG meeting](#) in Nashville and published in *Obstetrics and Gynecology*.

CVD accounts for 26.5% of pregnancy-related deaths in the U.S.; [23%](#) of these deaths are attributable to peripartum cardiomyopathy, which usually develops postpartum. This condition is characterized as a non-ischemic cardiomyopathy with a decrease in the left ventricular ejection fraction to less than 45% and no previous history of cardiac disease.

"Most of these deaths are preventable, but we are missing opportunities to identify risk factors prior to pregnancy and there are often delays in recognizing symptoms during pregnancy and postpartum, particularly for black women," Hollier explained to the press.

In fact, the leading risk factor is race, [stated](#) the task force. Racial bias and overt racism that exists in the provision of health care and in health system processes may partly explain why black women's risk of dying from CVD is [3.4 times higher](#) than that of white women, the team added.

Being older than 40 years also increased the risk of heart disease-related maternal death by 30-fold compared to being younger than 20 years. Hypertensive disorders, which affect up to 10% of pregnancies, can also lead to maternal morbidity and mortality. In addition, pre-pregnancy obesity increased maternal death risk due to a cardiac cause, especially if associated with moderate-to-severe obstructive sleep apnea, the team wrote. Pre-gestational diabetes mellitus, history of preterm delivery, a strong family history of heart disease, and exposure to cardiotoxic drugs were among the other risk factors for maternal mortality noted by the team.

"The new guidance clearly delineates between common signs and symptoms of normal pregnancy versus those that are abnormal and indicative of underlying cardiovascular

disease. As clinicians, we need to be adept at distinguishing between the two if we're going to improve maternal outcomes," Hollier elaborated.

"Pregnancy is a natural stress test," [explained](#) James Martin, M.D., chair of the Pregnancy and Heart Disease Task Force. "The cardiovascular system must undergo major changes to its structure to sustain tremendous increases in blood volume. That's why it is critical to identify the risk factors beforehand, so that a woman's care can be properly managed throughout the pregnancy and a detailed delivery plan can be developed through shared decision making between the patient and provider. Moreover, we must think of heart disease as a possibility in every pregnant or postpartum patient we see to detect and treat at-risk mothers."

Some of the key recommendations (based mainly on consensus and expert opinion) for pregnant and postpartum women focus on maternal, fetal, and neonatal health:

- Optimization of maternal health begins with pre-pregnancy counseling for women with heart disease, where possible, and an understanding of physiologic changes in pregnancy that affect cardiovascular stress.
- The team recommended that all women should be assessed for CVD in the antepartum and postpartum periods using the California Improving Health Care Response to Cardiovascular Disease in Pregnancy and Postpartum (CMQCC) [toolkit](#) algorithm.
- Patients with moderate and high-risk CVD should be managed during pregnancy, delivery, and the postpartum period in medical centers with a multidisciplinary Pregnancy Heart Team that includes obstetric providers, maternal-fetal medicine subspecialists, cardiologists, and an anesthesiologist at a minimum.
- Ongoing collaborative care for these women and those at risk for future CVD is essential to reduce maternal morbidity and death.
- Pregnant and postpartum women with known or suspected congenital heart disease should receive an echocardiogram.
- Congenital heart disease in the mother should prompt fetal echocardiography; conversely, identification of congenital heart disease in a fetus or neonate may prompt screening for parental congenital heart disease, according to Hollier and colleagues.
- Testing of maternal cardiac status is warranted during pregnancy or postpartum in women who present with symptoms such as shortness of breath, chest pain, or palpitations and known CVD (symptomatic/asymptomatic/both).
- Estimations of maternal and fetal hazards related to a woman's specific cardiac disorder and her pregnancy plans can provide anticipatory guidance to help support her decision making, noted the team.

Source Reference: [Obstetrics & Gynecology](#), 2019; DOI: 10.1097/AOG.0000000000003243

Explanation of Findings

Using the CMQCC toolkit algorithm could have identified women as high risk requiring further cardiac evaluation and referral in [88%](#) of maternal deaths.

Additional [resources](#) were also noted in the document that could be helpful to ob-gyns, other healthcare providers, and patients.

Afshan Hameed, MD, executive member of the Pregnancy and Heart Disease Task Force, offered her thoughts via phone, emphasizing the importance of awareness and education to prevent maternal mortality. Hameed said that often, a pregnant woman has presented with symptoms, such as shortness of breath, fatigue, or cough, only to be dismissed or misdiagnosed.

But screening all pregnant women and postpartum women for CVD could help with early diagnosis and treatment, she said.

"We believe if we have universal screening by using the CVD algorithm [recommended by the task force], we have the potential to discover undiagnosed cardiovascular disease and improve maternal mortality and morbidity. The overwhelming majority of women who have died are not aware they had cardiovascular disease," she said.

Janet Wei, MD, liaison for the American College of Cardiology, and practice bulletin co-author, emphasized the importance of a "pregnancy heart team," a multi-disciplinary team consisting of at least an ob/gyn and a cardiologist. This team would establish a comprehensive plan for delivery.

Wei also emphasized one of the key recommendations of the bulletin, which is referral to an appropriate hospital setting for pregnant patients with moderate-to-high risk cardiac conditions.

"All labor and delivery units should have a plan for tertiary referral in place in advance of the patient coming in to see you for a cardiac condition, to know who and where to refer them," she said.

Experts also considered the postpartum period a time when the heart is at its most [vulnerable](#) -- highlighted by the fact that women face the highest risk of heart failure in the six weeks after giving birth. Ongoing postpartum care after the three-month cardiovascular assessment visit affords clinicians the opportunity to optimize underlying medical conditions to improve future pregnancy outcomes and cardiovascular health.

James Martin, MD, chair of ACOG's Pregnancy Heart Task Force, echoed this point and noted that stroke risk in pregnant women with hypertensive disorders is highest five to six days after delivery. However, he added that this risk is not as well-defined for CVD; that the risk continues through pregnancy, accelerates post-partum, and can persist long afterward.

However, Martin said that 40% of women do not return for postpartum care.

"Perhaps it reflects our need to change payment models so doctors and patients recognize the importance of coming back, [because] the end of pregnancy is the beginning of the rest of their life," Martin said.

Moreover, once a woman is identified as being at risk of postpartum CVD, she needs to be seen more often than a routine postpartum patient, he said. Among these recommendations is a comprehensive CV visit at 12 weeks postpartum.

"We need to get insurers and payers to fund that -- it doesn't need to be ob/gyns. Maybe it would be better to have cardiologists do [that exam]," Martin said.

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Primary Source

Obstetrics and Gynecology

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Secondary Source

MedPage Today

Source Reference: [Walker M "ACOG: Think CVD Before, During, and After Pregnancy" 2019.](#)