

Pregnancy increases risk of heart attack

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Heart attacks during pregnancy tend to be more severe, lead to more complications, and also occur for different reasons than commonly seen in the non-pregnant general population, suggesting that, in some cases, the standard approach to managing this condition may not always be best, according to research presented today at the American College of Cardiology's 61st Annual Scientific Session. The Scientific Session, the premier cardiovascular medical meeting, brings cardiovascular professionals together to further advances in the field.

The changes brought about by [pregnancy](#), including the dramatic shift in hormones and increased volume of blood being pumped through the body, can increase a woman's [risk of heart attack](#) during pregnancy and in the 12 weeks after delivery. There is limited clinical information about how to optimally treat—and perhaps, more importantly, how not to treat—heart attacks during pregnancy and post partum. This study, which is an extension of two previous surveys by the same research group, analyzed 150 new cases of heart attacks associated with pregnancy occurring since 2005 to better understand how heart attacks occur and are being treated in [pregnant women](#).

The analysis found that most pregnant women did not present with traditional cardiovascular risk factors, such as high blood pressure, diabetes or high cholesterol levels, yet they tended to have more serious heart attacks. In fact, the death rate in these women was 7 percent, which is two to three times higher than what is expected in non-pregnant patients of the same age. In addition, heart attacks in most of these women were caused by different mechanisms than those occurring in the

non-pregnant general population.

"Despite advances in the management of myocardial infarction, we found that the rate of severe complications including heart failure, cardiogenic shock, and maternal or fetal mortality continues to be high among pregnant women compared to others," said Uri Elkayam, MD, professor of medicine at the University of Southern California in Los Angeles and the study's lead investigator. "Therefore, every effort should be made for early diagnosis and appropriate treatment of pregnancy-associated acute myocardial infarction. We believe this study provides important information that can help guide clinicians, and hopefully improve the care of these patients."

While atherosclerosis—or a narrowing of the arteries due to fatty build-up—is the most common cause of heart attacks in the general population, this was only the cause in one-third of pregnant women. More common among pregnant women was coronary dissection, a separation of the layers of the artery wall that blocks normal blood flow. This is very rare in non-pregnant patients and is thought to occur during and immediately after pregnancy because of the weakening of the wall of the coronary arteries. Researchers also found that coronary dissection may actually be worsened by blind use of guideline-recommended standard therapies such as thrombolytic therapy.

"We have very clear guidelines for treating myocardial infarction in the general [population](#). These guidelines, however, may not always apply to women with pregnancy-associated heart attacks, and may actually cause more harm than good," said Dr. Elkayam. "It is, therefore, important to identify the cause of heart attack in pregnant women before deciding what therapies to use."

In particular, he said coronary angiography to identify the mechanism of heart attack and guide therapy is recommended in high-risk patients

when urgent treatment is needed. At the same time, however, in several patients coronary dissection was reportedly caused by coronary angiography or angioplasty and led to either death, a need for extensive stenting or coronary bypass surgery. For this reason, Dr. Elkayam advises that stable and low-risk women with pregnancy-associated heart attack be treated conservatively.

Although the likelihood of having a [heart attack](#) during pregnancy is very low—estimated to occur in 1 in 16,000 deliveries—this risk is still three to four times higher in pregnant women than in non-pregnant women of the same age, according to Dr. Elkayam. As more women postpone having a first baby, the incidence of this condition is expected to grow.

This analysis included 150 cases published in the literature or consulted by the research team since 2005 and builds upon previous analysis of another 228 cases prior to 2005. More positively, maternal mortality has been decreasing steadily since the first survey, dropping from 16 percent prior to 2005 to 7 percent after 2005.

"This study is another step in better understanding the cause of pregnancy-associated heart attacks and their potential management," said Dr. Elkayam. He is hopeful that a national registry will be created to better track heart attacks in pregnant women and establish optimal protocols that lead to better outcomes.

Provided by American College of Cardiology

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