

## Heart disease in pregnancy: A special look at peripartum cardiomyopathy

February 28 2019

In the current issue of Cardiovascular Innovations and Applications (Special Issue on Women's Cardiovascular Health, Volume 3, Number 4, 2019, Guest Editor Gladys P. Velarde) pp. 403-408(6); DOI: ttps://doi.org/10.15212/CVIA.2017.0066 Dmitry Yaranov, MD and Jeffrey D. Alexis, MD from the College of Medicine, University of Florida, Jacksonville, FL, USA and the University of Rochester, Rochester, NY, USA consider peripartum cardiomyopathy.

The authors provide an update of a poorly understood condition, peripartum cardiomyopathy, that affects roughly 1/1000 women in the US in the peripartum period and disproportionately affects African American women and the Southern region of the US. This article examines the epidemiology and etiologic factors such the role of angiogenic imbalance and pre-eclampsia as well as a treatment role of prolactin antagonists. The latest Investigations of Pregnancy Associated Cardiomyopathy study (IPAC) recommendations are also heavily referenced.

Peripartum cardiomyopathy (PPCM) is a disorder in which heart failure develops in the last month of pregnancy or within the first five months postpartum. The exact etiology is not known although recent studies suggest angiogenic imbalance is a key factor with soluble fms-like tyrosine kinase-1 (sFlt1) and a cleaved form of prolactin possibly playing important roles. This review discusses the epidemiology, <u>risk factors</u>, diagnosis, treatment and prognosis of PPCM and highlights recent advances in our understanding of this disorder.



This article forms part of a special issue on Women's Cardiovascular Health, guest edited by Gladys P. Velarde. Recent decades have witnessed great progress in the treatment of cardiovascular disease (CVD). Due to improved therapies, preventive strategies and increased public awareness, CVD (stroke, heart failure, ischemic heart disease, peripheral arterial disease and congenital heart disease) mortality has been on the decline over this span of time for both genders. Unfortunately, the decline has been less prominent for women, especially women of color. Once viewed as a man's disease, CVD remains the leading cause of mortality for women in the United States and is responsible for a third of all deaths of women worldwide and half of all deaths of women over 50 years of age in developing countries. In the United States, CVD far outpaces all other causes of death, including all forms of cancer combined. The statistics are sobering with about one female death in the United States every 80 seconds from CVD. That represents close to 400,000 deaths per year according to the more recent statistics. Of these, more than one quarter of a million women will die this year from ischemic heart disease (IHD) which includes obstructive and non-obstructive coronary disease, and about 64% of women who die suddenly of IHD have no prior symptoms. Despite a significant number of females with known CVD and increased awareness among women of heart disease as their major health threat, a substantial proportion of women (46% as per the most recent American Heart Association survey) remain unaware of their cardiovascular risk and continue to fail to recognize its significance.

This lack of awareness is more profound (over 60% unaware) among women in higher-risk groups, racial and ethnic minorities, and has changed little in decades.

Poorly understood sex/gender differences in pathobiologic mechanisms, clinical presentation, management and application of diagnostic and therapeutic and preventive strategies have contributed to this gap. A



critically important factor has been the underrepresentation of women in CVD research to date. In fact, only one-third of CVD clinical trials report sex-specific results despite The Food and Drug Administration regulations requiring sex stratification data, as well as the National Institute of Health recommendations of increased inclusion of women in clinical trials. This makes it difficult for researchers and clinicians to draw accurate conclusions about sex differences in mechanisms of disease, accuracy of specific diagnostic modalities and risks or benefits of a particular drug or device for the treatment of women with CVD. Furthermore, physicians and other healthcare providers continue to underestimate women's cardiovascular risk, in part because of utilization of traditional approaches which can lead to over-testing or inappropriate risk assessment without accurate differentiating who is truly at risk and inadequate use of preventive therapies for women.

The goal of this special edition Cardiovascular Innovations and Applications is to shed some light on specific topics that dominate the spectrum of CVD in women.

**More information:** Dmitry Yaranov et al, Heart Disease in Pregnancy: A Special Look at Peripartum Cardiomyopathy, *Cardiovascular Innovations and Applications* (2019). DOI: 10.15212/CVIA.2017.0066

## Provided by Cardiovascular Innovations and Applications

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