“LADIES FIRST”: GENDER-RELATED PATHOPHYSIOLOGIC DIFFERENCES IN CORONARY ARTERY DISEASE AND PERIOPERATIVE MANAGEMENT?

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Differences exist between women and men in their emotional, physiologic, genetic and reproductive build-up. However, until recently, it was assumed that women and men are physiologically similar, and females were evaluated and treated as males. The fact that cardiovascular disease is a major cause of death in women is not well recognized. Women have smaller coronary arteries, more frequent diastolic dysfunction, present with vague symptoms of coronary artery disease and do worse than men after revascularization procedures. Women also have a shorter cardiac cycle, have a higher heart rate (4-5 beats/min), and are more prone to develop arrhythmias and react differently to antiarrhythmic drugs.

The medical literature has defined differences in cardiovascular anatomy, physiology, electrophysiology, pathophysiology, and surgical outcomes, in women as compared to men. There is a current controversy on whether the aforementioned recently recognized, gender-related phathophysiologic differences, mandate changes in perioperative management of females or not. The changes were suggested in order to improve their perioperative cardiovascular risk, through better preoperative identification of women with probable coronary artery disease. In this context it is noteworthy that the symptoms of myocardial ischemia or infarction are different in women, where chest pain is not common and shortness of breath is the common presentation.

It was demonstrated that off-pump coronary artery bypass graft surgery significantly reduces the risk of adverse outcome in women.

Is there enough scientific evidence to mandate a gender-specific standard of care for female cardiac surgical patients? Currently, the answer is still elusive, but a review of the controversy might emphasize our recent awareness of gender-related differences and may help improve perioperative management.