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Samuel Agyenim Boateng
Otterbein University, samuel.boateng@otterbein.edu

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**Myocardial Infarction (MI) in Women**

Samuel Aygenim Boating, RN, BSN, FNP Student
Otterbein University, Westerville, Ohio

**Introduction**

Cardiovascular disease (CVD) is the most common cause of death for men and women in the US. The disease has been extensively studied in males, but findings in females have been less extensively studied (Gulati & Bailey Merz, 2012, p. 141). CVD poses an obvious challenge to the health of women. Coronary heart disease (CHD) is described as “a modern epidemic” (Banerji, 2010, p. 146). Although, the prevalence of CVD has prompted many studies for treatment and prevention, little has been written about CVD in women. There is now clear evidence that the mortality rates in women have surpassed that of men (Gulati & Bailey Merz, 2012, p. 141). Recent reports indicate that CVD killed more women than men in the US. In the US, 421, 31 women died from cardiovascular disease (edwards, et al., 2011, p.459; Gulati & Bailey Merz, 2012, p. 142).

*The population of women and CVD is expected to rise by 1.5% annually, as more men and women seek treatment for ischemic pains and infarction (Sancho & del Carmen, 2012, p. 146).*

*More women have died from CVD and the probability of a woman to die from CHD is expected to increase more than eight times. Women remain less aware of the unique symptoms of the disease (Sjöström-Strand et al., 2011, p. 459).*

**Unique Presentation in Women**

MI is associated with countless signs and symptoms (v/s) and some specific risk factors that frequently assist in identifying the underlying pathology:

- **Atypical s/v in female patients are fatigue, sleep disturbance, dyspnea and diminished physical functioning (Mieres, et al., 2012, p. 575).**
- **Classic chest pain that characterizes MI in men is quite unusual in women.**
- **50-60 first sign of heart disease was either acute MI or sudden cardiac death.**
- **Women are presenting with chest discomfort that has always been prevalent (Mieres et al., 2011, p.1226; Edwards, et al., 2012, p. 575).**
- **C/o chest pains in a woman can best serve as a predictor adverse CVA event in the absence obstructive CAD.**
- **Women c/o chest pain while at rest & last not longer than usual.**
- **MI in women is preceded by signs of back pain, arm, shoulder, jaw, throat pain and toothache.**
- **Hormonal changes experienced after menopause plays a critical role. Reduced estrogen, decreased lipid dysfunctions and significantly increases the incurrence of MI (Edwards 2012, p. 576; Gulati & Bailey Merz, 2012, p. 142).**

**Pathophysiology of MI**

Generally, CHD has been considered as a disease characterized by the presence of lesions in the surface of the subarterial tissue of the heart. However, numerous studies have revealed the pathophysiological process of MI in women does not follow the usual pattern of the disease. Research studies have shown that women who undergo coronary angiography studies for chest pains usually show no evidence of obstructive disease (Edwards, 2012, p. 575; Gulati & Bailey Merz, 2012, p. 142). This was generally accepted that the presence of “clear arteries” on diagnostic tests indicated low cardiac risk.

But recent studies have demonstrated that this conclusion does not hold true for female patients. There has been substantiated evidence from the Women’s Ischemia Syndrome Evaluation (WISE) studies stating that coronary microvascular dysfunction is present in over 50% of women with MI without obstructive disease. Obstructive disease or stenosis of the coronary arteries is defined as occlusion of the vessel of the lumens greater than or equal to 50 percent. These women had poorer outcome even in the absence obstructive lesion. In addition to the above, it has also been noted that many of these women demonstrated abnormal stress test results which could indicate ischemia and/or microvascular dysfunction (Edwards, 2012, p. 575; Gulati & Bailey Merz, 2012, p. 2014). The data indicates that the typical cardiac risk factors for cardiovascular disease in women do not follow the previous established pattern. MI is a disease characterized by the presence of lesions in the surface of the subarterial tissue of the heart. However, numerous studies have revealed that the presence of “clear arteries” on diagnostic tests indicated low cardiac risk.

This is coupled with continued investigation, we are now able to understand the pathophysiology of the management of myocardial infarction outcomes for women (Bairey Merz, 2012, p. 112). The enigma of heart disease in women: New insights may precipitate diagnosis and improve patient outcomes. Journal of American Academy Of Name Practitioners, (2014), 307-378.

**Significance**

The literature provides substantive insights into the pathophysiological differences that exist between men and women with myocardial infarction. It is now known from postmortem studies that women manifest clear plaque erosion and plaque disruption (Gulati & Bailey Merz, 2012, p. 144). The evidence indicates the presence of small vessel disease that is manifested in renal artery occlusion that is found in women with heart disease (Gulati & Bailey Merz, 2012, p. 144). The data indicates that the typical cardiac risk factors for cardiovascular disease in women do not follow the previous established pattern. MI is a disease characterized by the presence of lesions in the surface of the subarterial tissue of the heart. However, numerous studies have revealed that the presence of “clear arteries” on diagnostic tests indicated low cardiac risk.

**Implications**

The relevance of the pathophysiological process is of vital significance to health professionals. Misinterpretation of the data may be fatal.

Firstly, the knowledge gleaned from the research must be utilized to achieve the appropriate management of the disease prevention and disease presence in population of myocardial infarction in women. This requires initiating a robust health education framework and screening programs that reduce the consuming modifiable risk factors such as hyperlipidemia, hypertension and diabetes that remains crucial to disease prevention and outcome (Edwards, 2012, p. 575).

The pathophysiological differences have been attributed to a combination of varying factors. Some of the pleaded factors include endothelial dysfunction, hormonal changes after menopause, Nitric Oxide, increased lipid levels and distal embolization (Gulati & Bailey Merz, 2012, p. 144). The evidence points out that the type of modifiable risk factors are different that is vital to disease prevention and treatment.

Additionally, there is need for gender-specific education for health professionals as well as increased awareness among women. Last but not least, we need to invest more gender-specific and clinical programs geared towards a comprehensive methodology in myocardial studies in women. This is essential to understanding the unique symptom presentation in women.

The research outcome demonstrated gender-specific and sex differences in other to eliminate the obstacles that women may have known about women’s care. The research outcome demonstrated gender-specific and sex differences in other to eliminate the obstacles that women may have known about women’s care. The research outcome demonstrated gender-specific and sex differences in other to eliminate the obstacles that women may have known about women’s care. The research outcome demonstrated gender-specific and sex differences in other to eliminate the obstacles that women may have known about women’s care.

**Conclusions**

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**References**


**Additional Sources**

