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There is emerging awareness and concern today, as more women now die from coronary disease in this country each year than do men. In fact, when women show up with their first heart attack, 52 percent of them die from sudden cardiac death –- men, 42 percent. This is true even if

women don't have significant blockages in their vessels.

Some of the explanation behind this is that the disease has actually progressed further without a woman necessarily being aware of it. This is partly because women don't seek out cardiology doctors as much as men do. Plus, when many doctors see female patients, even they don't treat them as aggressively as they do men. They underutilize the American Heart Association guidelines for treating women, which at the moment are identical for both sexes.

Women's predisposition toward heart disease is not only a new perception for many doctors, it also contradicts the expectations of most women, who are generally more concerned about cancer than heart disease. This is despite statistics that show for women, one out of every 2.6 deaths in the U.S. is due to heart disease, while one out of every 4.6 females that dies is because of cancer.

Women have Different Symptoms

Another aspect of the misperception that women are less prone to heart disease as men are the differences in how symptoms show up in women and men. Instead, women get "angina equivalent." That can be pain in the upper back, fatigue, shortness of breath, or perfused sweating. It's not as dramatic or clear, and not as well-known.

Additional Dissimilarities

Aside from the already described disparities between women and men in connection to heart disease, women are also distinctly different in terms of:

Microvascular Dysfunction
Abnormal Coronary Reactivity
Higher Cholesterol
Calcium Scores
CIMT Results
Framingham Risk Assessment Results

Response to Emotional Distress
Likelihood of Obesity

Let's take a look at these areas in more detail.

Microvascular Dysfunction

When comparing effects of heart disease on men and women, we have to factor in that women probably have more microvascular dysfunction (sometimes called microvessel disease). It's one reason that most women don't exhibit the same warning signs as men – their symptoms and pain are microvascular.

What does this mean?

Heart disease may not necessarily involve a big blockage in a big artery. It can be blockages down in this microvascular system (micro means very small). These microvessels typically control blood supply to the heart tissue during times of high demand, such as exercise or stress. Blockages in these can cause ischemia (decreased oxygen and nutrients to tissue). If lasting long enough while demand is high, a heart attack can result.

This appears to be more of an issue for women than men. One explanation is that the variances in hormone levels throughout a woman's life (changing during pregnancy to peripartum to menopause), all can raise the risk of more microvascular disease.

So women may not have big blockages in main arteries on top of the heart as much as they have tiny ones inside muscles and organs. These microvascular blockages actually create more symptoms, but doctors can't figure out why the patient is having them. As a result, many women coming in with this problem will be told they're not candidates for treatment. But if your physician isn't concerned about these symptoms that you bring in, you might bring this possible explanation to their attention.

Abnormal Coronary Reactivity

Women can also have what we call abnormal coronary reactivity. It means their vessels react differently than normal under stress. They may not necessarily have a clot or blockage, but because of stress-related issues, they're more prone to these arterial spasms that cause less blood flow to the heart and possibly chest pains. If severe enough and continuing long enough, these spasms can even cause a heart attack.

Higher Cholesterol

Women also tend to have higher cholesterol than men. Within that cholesterol, they also tend to have lower HDL (the good cholesterol. Additionally, high triglycerides1 tend to more negatively affect women in terms of causing blockages and heart attacks.

Calcium Score

When you get plaque inside your arteries, it can go under the vessel wall, build up, and become calcified. This is of concern.

Calcium scores vary from zero into the 1000s. Different levels predict the likelihood of developing heart disease over the next 10 years. It's a good screening test, especially for patients who are borderline risks (like having a positive family history or being diabetic).

It is significant for women if they're at high risk from the calcium score, as chances for them developing heart disease or heart attacks are consequently 10 percent more than for men.

CIMT Results

Another difference in women and men is their CIMT results. CIMT measures the thickening of the inside lining of the neck's carotid artery that goes to the brain. Typically, if that result is normal, we measure the risk at only one percent. But if it turns out higher than what should be for someone of a certain age, the risk of having a blockage and a heart attack in the next 10 years will be much higher than if it was normal. That is generally true equally for men or women.

However, as the thickness increases, the risks are much higher in women than men.

Limits of the Framingham Risk Assessment

There is another reason why women may not be diagnosed as early with heart issues as men.

An evaluation referred to as the Framingham Risk Assessment is commonly used to compare variables such as age, sex, total cholesterol, HDL cholesterol, blood pressure and whether you smoke. It's designed to determine if you are at low or high risk for developing heart disease or attacks in the future. But it undercuts some of the biomarkers particular to women. This is especially significant, since if the score comes out relatively low, some doctors may not perform further screening tests.

Broken Heart

Not literally that the heart is "broken." But there is something referred to as "broken heart syndrome." As you might imagine, it refers to an emotional sorrow.

It is most often used to describe the condition of an elderly woman with recent emotional distress who has a heart attack.

Everything looks like a heart attack, but there are absolutely no blockages. Yet it's actually a heart attack. What probably occurred was that the heart wasn't getting enough oxygen, but then in a few moments the heart goes back to normal. The muscle is acutely damaged, though not

bad enough to last an extensive time.

So is there an emotional connection? Does “sadness in the heart” somehow affect it physically? Science is still searching for those answers.

Weighty Subject

Another factor more emphasized in women is weight. The obesity epidemic in the U.S. appears to be striking women more than men. Two-thirds of the female population is obese. Obesity is a risk factor for developing heart disease (as well as diabetes).

The myth that women are somehow more immune to coronary disease than men is clearly fading. Women need to be just as conscientious toward their health habits as do men, and similarly consult with a cardiologist when necessary. Their warning signs can be more diverse than the classic indicators, which mean that in some cases, women may proactively need to “educate” their own doctors to current information.

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1 A triglyceride is an ester (esters are chemical compounds consisting of a carbonyl adjacent to an ether linkage) derived from glycerol and three fatty acids. Source: www.wikipedia.org .