

Menopause and Your Heart

Webcast

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Introduction

Andrew Schorr:

Here's a fact for you: Heart disease is the number one killer of women. It is by far much more dangerous than all cancers put together. We're going to talk a lot more about that, and guess what, the risk goes up significantly when a woman goes through menopause. Well, coming up a cardiologist from Northwestern Memorial Hospital will talk about the risk and what you can do to prevent heart disease. It's all coming up on Patient Power.

Hello and welcome to Patient Power. I'm Andrew Schorr, and thanks to Northwestern Memorial Hospital for bringing us a conversation with another leading expert. This time we're talking about menopause and your heart. So, ladies, you think so much about the risk of various illnesses to your health. Breast cancer usually comes up number one, but guess what. Guess what. It's your heart that you should particularly be focused on, and many people don't know that. Actually, more than half of all women over 50 will die from heart disease, and it also appears that menopause is one of the foremost indicators in causing heart disease, making it worse. So we're going to understand that in the next few minutes as we visit with Dr. Vera Rigolin.

Dr. Rigolin is associate director of the Center for Women's Cardiovascular Health at the Bluhm Cardiovascular Institute of Northwestern Memorial Hospital. She's also an associate professor of medicine in the division of cardiology at the Northwestern University Feinberg School of Medicine, and she's director of the echocardiography lab at Northwestern Memorial. That's where they do all that ultrasound for your heart.

Dr. Rigolin, thank you so much for being with us. So would you agree women are often not aware of the risk of heart disease and how that could be a killer for them?

Dr. Rigolin:

Yes. I think that's a very, very important point because if women are not aware of the risk of heart disease they may not be able to recognize, first, their risk factors and what can be done to prevent heart disease, and also if they are unfortunate enough to have heart disease they may fail to recognize some of the telltale symptoms until it's too late. Let me share with you some of the statistics from the American Heart Association to put this all into perspective. Statistically, one in three women dies of heart disease in our country.

Andrew Schorr:

Oh, my.

Dr. Rigolin:

It is the number one killer regardless of race and regardless of ethnicity. It strikes at younger ages. The risk rises in middle age as women approach menopause, and two-thirds of women who have heart attacks never fully recover. And part of that is because they were unable to recognize some of the warnings that came before the heart attack happened to allow them to take measures to prevent those kinds of events from happening.

Andrew Schorr:

Wow. And of course when we talk about heart disease there are a number of different aspects of this. Let me see if I get them right. Certainly, you can have a heart attack. There's heart failure, where your heart just isn't pumping well enough, right? You could have a stroke, when a clot could go somewhere like most notably to your brain. Angina is that chronic pain on your chest, is that right?

Dr. Rigolin:

That's right. I think you're right, I think we use the word heart disease rather loosely and we do have to understand what we're talking about. There are many, many things that can go wrong with a man's and a woman's heart. The type of heart problem that we're focusing on today is the problem where blockages form inside the arteries that supply blood and oxygen to the heart muscle. So although heart disease can really mean anything, it can mean any abnormality that happens to the heart, specifically what we're referring to -- and what women in the menopausal age group are particularly at risk for -- is the blockage formation inside of the artery, and that's what leads to chest discomfort, and when chest discomfort comes from the heart the name for that is called angina and then of course heart attack.

Risk Factors

Andrew Schorr:

Just so women understand, when we talk about these blockages, the heart is a muscle and to do its job it needs its own blood supply. When that blood supply is affected and blocked in any way it can't do its job, and that can lead to tremendous problems and of course, as we talked about, death.

Let's go back before menopause just for a minute and then see how menopause magnifies it. What are the risk factors for heart problems in anyone and then particularly in women?

Dr. Rigolin:

The risk factors, as you point out, are basically the same for men and for women. And I like to divide them into the risk factors that are modifiable, meaning that you

can do something about them, and then there's the risk factors that are nonmodifiable, meaning that you can't really change those particular risks.

The nonmodifiable risk factors are age. The older an individual is the more risk of having blockages in the arteries or what we're referring to in this presentation as heart disease. Gender of course, is not a modifiable risk factor, and family history. Family history is defined as a first-degree relative such as a mother, father, sister, brother, who has the development of heart disease at a young age, and that usually means less than the age of 50 in a man and less than the age of 60 in a woman. Those again are the nonmodifiable risk factors.

But then fortunately the list of modifiable risk factors is longer, which is good because those are the risk factors that you can actually change. And those include high blood pressure, high cholesterol, diabetes, cigarette smoking, obesity and physical inactivity.

Andrew Schorr:

All right. So that's the list we're going to talk about that. So here comes menopause, where the woman starts in the mid to late 40s but particularly in the early 50s. I have to say my wife has been going through it. What's changing that affects or turns up the heat, if you will, on these heart risks that it could lead to some serious complications?

Dr. Rigolin:

Unfortunately, when we look at all of the modifiable risk factors all of them are changing. And in part they're changing because of the lack of estrogen. In part they're changing because the woman isn't just naturally aging, because we do see some of these changes in men as well, again, just when they're related only to age. And the other factor that leads to change is the fact that as a woman ages not just her heart is aging but her joints are aging, her muscles are aging, and the rest of her body is aging. That usually leads to more physical inactivity and weight gain.

So again the changes that we see in menopause are related to lack of estrogen, aging, and the increase in weight and physical inactivity that may be as a result of the rest of the aging that's happening in the body making it more difficult to maintain a normal weight and to maintain a normal level of physical activity.

So as a result of all of that we usually see a rise in the systolic blood pressure. And the systolic pressure is the top number when the blood pressure is measured. And that we see a gradual increase, beginning with menopause and then gradually increasing as the woman gets older.

Interestingly, we also see a significant change in the cholesterol profile. And there's an interesting study that was recently published looking at the timing of the change in cholesterol relative to when menopause is happening. And it appears that the year around the timing of menopause dramatic changes in cholesterol are seen. And the increase in total cholesterol is noted. There's an increase in the LDL

cholesterol, which is the bad cholesterol, there's an increase in the triglycerides, and then more gradually over time is the decline in the HDL, which is the good cholesterol. So you start seeing that the whole profile is going the wrong way.

The Effect of Estrogen

Andrew Schorr:

Right. Now, you mention estrogen, and there's been so much discussion over the last few years about estrogen and the heart, so let's start with that. I understand that there are other things going on at that point in a woman's aging process but just to focus on estrogen for a minute, what is the thinking about how estrogen has been beneficial to the heart and when the levels go down it has a more negative effect?

Dr. Rigolin:

Well, probably the biggest effect is seen in the lipids, and that may be why there is such a dramatic change in the years surrounding the onset of menopause. And once menopause hits we see a dramatic change in the overall profile, with the numbers moving in the wrong direction. And the fact that we see some of these improved lipids in the younger age group and our thought that maybe estrogen deprivation may be in part responsible for the worsening of the lipids after menopause, that's what prompted us for many, many years to use hormone replacement therapy in postmenopausal women to hopefully reduce the risk of heart disease.

However, what we found out from various studies is that the pharmacologic or the replacement of hormones that's not natural, not naturally coming from the woman's own ovaries, is not the same as having your own ovaries do the trick for you. And what we found as we were studying women who were postmenopausal receiving hormone replacement therapy is that in fact in many cases the risk of heart disease actually went up compared to the women who do not receive the hormone. So I think this whole process is much more complicated than we give it credit for.

Andrew Schorr:

And then there was the concern of whether it raised the cancer risk as well.

Dr. Rigolin:

Yes. And that's been a concern that's actually been ongoing for many years. For many years we knew that there's possibly an increased risk of breast cancer, and there's also an increased risk of clotting, and there is a higher risk of having clots in the legs, clots in the lungs, and an increased risk of stroke. And that's something that's been known for many years.

What's changed in the last few years is the paradigm in saying, okay, what's the difference between a premenopausal woman and a postmenopausal woman. Of course, it's the estrogen. So it must be the estrogen that's responsible for keeping young women healthy and free of heart disease. So if we simply replace the

estrogen we're going to make the women young again. Well, we found out that that's not true and that because a postmenopausal woman is very different than a premenopausal woman by giving them the hormone replacement therapy we were actually exposing them to more of the risky side of the estrogen rather than providing them significant cardiac benefit.

Andrew Schorr:

Wow. That was a big turnaround for the cardiology community, wasn't it?

Dr. Rigolin:

It was huge, yes. And now if you look at the prevention of heart disease for women, and these are guidelines that are published by the American Heart Association, the recommendation for the use of hormone replacement therapy in postmenopausal women is now limited only for the treatment of significant postmenopausal symptoms such as hot flashes, night sweats, mood swings and so on, and to use the lowest dose for the shortest period of time. And no longer is there anything in the cardiac guideline literature to suggest that hormone replacement therapy is to be used for the prevention of heart disease because we simply find that that's not true.

Now, I to have to add, however, that this is a very controversial field, and there is a great deal of disagreement amongst the cardiology and OB/GYN communities. So you may have a very different perspective if you speak to many of the OB/GYNs who are more advocates of this type of therapy. But from purely a cardiac standpoint we have no evidence that significant cardiac benefit comes from this type of treatment.

Andrew Schorr:

But being any viewer of late night TV I have to ask you this, I'm sure you're asked 20 times a day, what about so called bio identical hormones? Is it any different?

Dr. Rigolin:

It's hard to answer because those are not as well studied as the synthetic drugs that were used in the trials that led to the conclusions that I spoke to you about. We simply have not had the magnitude of study on some of the other types of estrogen as we have for those, and it took thousands and thousands and thousands and thousands of women to show us the true effect of these drugs. So it just points out that you can't assume anything and you really need solid research with lots of patients to really give you the truth.

Obesity and Weight Management

Andrew Schorr:

Well said. And also, as you said, other things are going on at about the age of a woman going through menopause and she may be affected by menopause. She's becoming more sedentary. She has weight that she's not able to lose. Let's talk about obesity, some of these factors for a minute. So obesity, why is that so much

a risk factor, and if a woman has had that weight she's never been able to get off and now she just doesn't have the energy or the interest in exercising as much, or the time, why is that such a bad thing?

Dr. Rigolin:

Well, there are several reasons. First of all, obesity puts an individual at risk for other risk factors. For instance, an obese woman is more likely to be hypertensive and diabetic as opposed to a woman who is not obese. Obesity also contributes to a suboptimal lipid profile. Typically with obesity one sees an elevation in triglycerides, a lowering of the HDL, which is the good cholesterol, and often an increase in the LDL, which is the bad cholesterol. So here now you have a woman who is overweight, and now her heart is going to have to work a lot harder every time she moves because it has to carry around all this extra weight and pump blood to a larger body mass. And she's going to have to work harder every time she climbs the stairs or climbs up a hill or runs to catch the bus. And then you compound that with hypertension, diabetes, an abnormal lipid profile, and it's not hard to imagine that such an individual would be at higher risk for having problems.

Andrew Schorr:

Now, many women smoked for years, and some continue to smoke. So the smoking with the obesity and maybe diabetes, that sounds like a real recipe for a problem.

Dr. Rigolin:

Oh, yes. And the smoking, I know how hard it is for people who have been smoking a long time to quit, but for those who don't quit their overall risk of having not just heart disease or blockages in the arteries of the heart but they're also at more risk for having a stroke and also at more risk for having what we call peripheral vascular disease, which is blockages of the arteries in the legs and in the arms. And in the legs it becomes a particular problem because then it limits the ability for the individual to walk, to exercise, to move around, and then that compounds the problem with obesity, physical inactivity and so on. So all these risk factors are related to each other and make each other worse.

Assessing the Risk: Why Women Present Differently

Andrew Schorr:

It's a vicious cycle. Let me ask you about heart disease showing up differently in women. We've done other programs where we talk about if a woman is having a heart attack she may present, as you say, differently. The symptoms may be different. But let's say a woman or her husband or male friends worry about blockages in the major arteries that supply the heart, and people have heard, oh, John went in and he had an angiogram and it was 85 percent or 95 percent blocked and he had something to unblock it. Is it the same thing for woman? Is it that, or can it be what I hear, I guess you'd call it the microvasculature of the heart? Does that come into play more for women?

Dr. Rigolin:

Yes. There's actually quite a few differences between the way that blockages form and are distributed in a woman's heart as opposed to a man's heart. One of the first things is that if we were to look inside the arteries of both men and women we would find that the overall amount of plaque, plaque is the cholesterol and fat buildup inside of the arteries that cause arteries to clog, so the total amount of plaque that we can see is often less in the arteries of a woman than it is in a man. However, despite the fact that the overall amount of plaque is less, women have more symptoms than men. They often have symptoms that are more persistent and more resistant to treatment, and because of this they require more hospitalizations, more testing. And if we were to look at all of the amount of money in our healthcare that is spent on treating individuals with chest discomfort and heart disease, we're actually spending more money on the woman simply because we haven't quite figured out the best way to treat the woman and so they continue to have symptoms.

So one of the reasons is because we have less overall plaque and our standard treatment is we do an angiogram on an individual and we find a very tight blockage that's 70 percent or greater. We can open that blockage with a balloon and put in a stent, which squishes open the blockage and allows the blood to flow properly. But if the amount of blockage is less than 70 percent then a stent isn't going to help, and what we find is that oftentimes the artery where the blockage is may have changed shape.

And you imagine the arteries to look like a pipe, and you have a long pipe, and imagine the pipe that's in the drain to the bathroom in your house, and that drain gets clogged with all sorts of junk that goes down the sink, and then you remove all that stuff that clogged the sink, and then the water is flowing freely again. So that's what happens to an artery with a stent.

However, if the pipe isn't that clogged then obviously the stent isn't going to help. And if we were to look at some of these arteries under a microscope what we would find is that in the arteries of a woman the artery actually changes shape, and part of the artery can actually grow and bulge out so that the plaque gets kind of pushed off to the side. So when you do an angiogram and you're just looking at that main part of the artery. You under appreciate how much plaque is actually present because of the change in shape of the artery.

The other thing is that the way that the arterial system is in the body, it's kind of like a tree, where you see the main trunk of the tree, then you have the main branches and then the branches branch to branches, and the branches branch to other branches, and pretty soon you get to a little twig. The arteries do the same thing. The main artery is like the trunk of the tree, and then there are branches, and then there are branches of the branches, and so on and so forth until you get to the teeny, teeny, tiny, little blood vessels that are equivalent to the twigs on the tree.

And oftentimes in women you end up with plaque buildup in these teeny, tiny, little branches, and these teeny, tiny, little branches are called the microvasculature. So micro means small, vasculature means blood vessels, so the small blood vessels, and those small blood vessels are not visualized in an angiogram. So the alteration in the shape in the artery plus the fact that a lot of the blockages are often found in the small blood vessels or the microvasculature really helps us understand why doing an angiogram in a woman may not always give us the answer because our technology is not designed to detect that type of disease.

Andrew Schorr:

Well, the good news, I guess, is at Northwestern you try to have ever more advanced technology, and you have a center that's devoted to women's cardiovascular health. Are you using some techniques now so that you can more fully assess a woman's risk?

Dr. Rigolin:

Yes. First of all, I think it's important when a woman presents with symptoms that make an individual suspicious that heart disease may be present that even if tests are negative, not to ignore the woman's symptoms. And because many of our tests are designed to pick up blockages when they're very, very tight, our technology is not always able to pick up some of these changes that I told you about.

Let me review with you what some of our typical tests are. So oftentimes when a woman or a man presents with chest discomfort and we're suspicious that possibly some blockage problems may be present, one of the first tests we often do is called a stress test. And there's various types of stress tests that we can do. One is just doing an EKG stress test, where the individual is hooked up to an EKG machine, and we just monitor the EKG and look for some very specific changes that indicate to us the likelihood of blockages being present. The problem with that type of test is that for women the sensitivity and the specificity of the test, otherwise the overall accuracy of the test, is not very good in women. So we don't like to do plain EKG stress tests in many women for that reason.

So then we have tests where we can also image the heart in some way to add more diagnostic accuracy on top of the EKG. So one of the kind of tests that we use is called the stress echo where we combine an echo or an ultrasound of the heart before and after exercise to see what happens to the walls of the heart after a woman has put forth enough effort to put some stress on the heart. That test is very good for women. It has no radiation. We don't worry about any artifacts from the breast tissue. However, it is the best test when women have more significant blockages, when they're about 70 percent or more. And even though a lot of women have microvascular disease we still have a fair share of women who have tight blockages as well. So that test is good when you do have the tight blockages.

Then we have nuclear stress tests where we inject an agent through the IV that helps us assess the blood flow in the heart muscle. And that one is probably better than the stress echo to look for microvascular disease because it's telling us about

the blood flow or the perfusion in the heart. The downside of that test is that when a woman's heart is very small and there may be small areas of abnormality on the test the resolution of the test may not be sufficient to pick it up. And also sometimes the breast tissue gets in the way and causes some artifacts.

One of the newer stress test theme modalities that we're evaluating here at Northwestern is the use of MRI, or magnetic resonance imaging, in combination with a medication that stresses the heart and giving a special contrast agent that allows one to visualize the blood flow within those small, little blood vessels. And I have a patient in particular who has classic chest discomfort. She's had a normal angiogram, she had a normal stress echo and a normal nuclear stress test, and lo and behold when we did her MRI it was very, very classic for microvascular disease.

Andrew Schorr:

Wow. I'm glad you're able to do that. Dr. Rigolin, so let's put it all together. So following from where we've been now, as a woman gets to menopause age as well as going through menopause, there are changes going on that heighten her cardiovascular risk with heart disease as we've described it today, and she may have other illnesses going on, diabetes, etc., and obesity. She may be a smoker or had been one. Maybe there's family history, as you talked about, someone dying with heart disease earlier. So they go through this test, what happens then? So you're going to tell the woman, "I'd really like to help you lose weight. I'd really like to help you stop smoking. I'd really like to help you be encouraged to get exercise and have the appropriate diet." Then, just like with men, do various medications come into play?

Dr. Rigolin:

That's right. Obviously, there's a big focus on risk factor modification, but if we have diagnosed disease we also have to treat the disease in addition to the risk factors to help prevent the woman from getting worse. But if a woman is having angina, having heart attacks and so on we have to be aggressive with medications to treat that problem.

And the medications we use to treat heart disease in men and women is the same. However, we may need to tailor the doses of medicines in a slightly different fashion accounting for the fact that oftentimes women are smaller than men. And this comes into play particularly in a woman who may be coming into the hospital with a heart attack or coming in with a bad episode of chest pain that we think is due to a very severe blockage and we give a lot of blood thinners. And what we found is that in women the blood thinners tend to cause more bleeding than it does in men, and a lot of the times that's because the same doses are given for men and for women. And with women being smaller we may not be able to tolerate that high of a dose. So the medications are all the same. It's just we may have to be careful to weight-adjust some of the medicines, particularly some of the blood thinners, to decrease the bleeding that we sometimes see.

Andrew Schorr:

All right. We talked about the statistics, which are scary as we outlined them at the beginning. So women listening, say, okay, I'm going through menopause, I really don't want to develop these problems. So if you were just going to tick off what you would prescribe, if you will, for what they can do, what would it be?

Dr. Rigolin:

Well, I think at all ages it's important to lead a heart-healthy lifestyle. So if you're smoking please stop, and do whatever it takes to stop. I know it's hard, and I'm not trying to minimize how difficult it is, but it just has to be done. So really work hard to stop smoking.

If you're overweight really get some help in making modifications in your diet and in your exercise program to maintain a healthy weight. And a lot of times what we find is that every decade a woman is putting on another five pounds, and by the time she gets to menopause and then really puts on weight afterwards then it becomes much more difficult to manage. So if you can start young and really paying attention to what's happening with your weight and trying to keep a steady weight throughout your life it makes it easier in the long run.

I think we really have to pay attention to diet. In general American diet is very poor. We have a very distorted view on portion size and what is an appropriate portion size, and we tend to way overeat. And that's something that has really manifested itself in the last 20 years. If you look at many of the foods we eat today and you compare them to what we were eating 20 years ago, there's a dramatic increase in portion size. Dramatic. So really paying attention to what am I eating, how much of it am I eating. And then also, you know, you have to live. So if you have a party to go to, you have a nice event, you're going to be eating more, great. Do it. But then an extra half hour of exercise or an extra hour of exercise the next day to balance that all out.

And the other risk factors such as diabetes, hypertension and abnormal cholesterol, those are risk factors that you may not necessarily know that you have. Unfortunately, in hypertensive patients the first symptom of having hypertension may be a heart attack or a stroke. So see your doctor on a yearly basis and discuss your risk factor profile with your doctor and learn what your numbers are. So when you walk out of your doctor's office you should know what your blood pressure is and know what a good blood pressure is. And if yours is not good then discuss with your doctor what you need to do to get it into an optimal range. Know what your lipid profile is. What's my good cholesterol, what's my bad cholesterol, what are my bad triglycerides, and know what's good and what's bad, and if you're in the bad zone, well, what are you going to do about it?

And then finally, know your blood sugar level. And our cutoff values of what is dangerous for blood sugar and for blood pressure have changed over the years, and now if you have a blood sugar that's over 100--and it doesn't have to be much over 100. Let's say it's a 105 or 110, that's abnormal. So just because it's not super

high doesn't mean that it's okay. So really know your numbers, know what they mean, and if they are not in a good range really be aggressive at talking to your doctor about what do you need to do to fix those risk factors so that you can keep yourself healthy in the long run.

Andrew Schorr:

This is all great advice. I'm just going to put in a couple of tips. Now, fortunately I was never a smoker and I do exercise, but sometimes it's tough to get up early in the morning when I go. But I would just say small steps. Everything you do is to the good. So if you're trying to lose 20 pounds or 30 pounds or start exercising and you haven't done it for years or maybe not at all, it's not a matter of running a marathon tomorrow. It's a matter of walking around the mall or walking around a few blocks, and that's a start.

Dr. Rigolin:

That's absolutely right. And the other thing is I encourage everyone to incorporate as much physical activity into their normal life. So if you have the possibility of running your errands by walking rather than by driving, do it. If you have the opportunity to take the stairs instead of the elevator, do it. Try to park far away from the entrance to wherever you're going so that it makes you walk.

The other thing is to use a pedometer, which is a little device which you can put on your belt, and it counts how much steps you have per day. And you should aim to have at least 10,000 steps a day. And what's good about the pedometer is that, say, you have a day where you're close to those 10,000 steps but you're not quite there yet, and you see, my goodness, I'm at 9,000, if I walk another thousand steps I'll get to my 10,000. So that may actually motivate you to do a little bit more that you otherwise might not have done.

Andrew Schorr:

This is all great advice. I want to mention to our listeners we're going to have another expert on from Northwestern in a month or so, and we're going to talk specifically about managing menopause and the hormone controversy. So we're going to get into it even more, Dr. Rigolin, but thank you for helping us because we can see how things have changed. And it's not just as simple as just replace the estrogen, you're going to be fine. It's not that at all, and you've helped us understand it. So menopause is a big change, but it can be kind of the first days or years of the rest of your healthy life, hopefully, and also keeping in mind that heart health is really paramount because it's such a negative for unfortunately too many women.

Dr. Vera Rigolin, thank you so much for being with us today from the Bluhm Cardiovascular Institute and your dedication to women's cardiovascular health.

Dr. Rigolin:

Thank you for having me.

Andrew Schorr:

This is what we do on Patient Power. And remember there's a whole library of programs we've done with leading medical experts from Northwestern. For instance, I can think of one program specifically on how to stop smoking with some really great tips. So take a look at that. It's all in the ihealth section of nmh.org.

I'm Andrew Schorr. Thanks for joining us. Remember, knowledge can be the best medicine of all.

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