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PINN POINT ON WOMEN'S HEALTH
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WITH
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ON
WOMEN AND STROKE

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P R O C E E D I N G S

(Time not given.)

ANNOUNCER: From the National Institutes of Health in Bethesda, Maryland, America's premier medical research agency, this is Pinn Point on Women's Health with Dr. Vivian Pinn, Director of the Office of Research on Women's Health.

Now, here's Dr. Pinn.

DR. PINN: Welcome to another episode of Pinn Point on Women's Health. Each month on this podcast we take a look at the latest developments in the areas of women's health and some of the medical research that affects our lives.

For our podcast today, I'm happy to welcome Dr. John Lynch who is program director in the Office of Minority Health and Research in the National Institute of Neurological Disorders and Stroke, here at the National Institutes of Health who is going to talk to us about a very important topic in one of the

three leading causes of death in women, as well as men, and that is stroke, although our focus today will be on stroke in women.

But first, some hot flashes from the world of women's health research coming up in just 60 seconds when we continue with Pinn Point on Women's Health.

(Pause.)

ANNOUNCER: The National Institutes of Health invites adults 18 through 75 to participate in the clinical study for asthma. All study-related tests are provided at no costs. Participants are compensated. Call 1-866-999-1116. That's 1-866-999-1116 for information. Or visit www.clinicaltrials.gov.

NIH is a nonprofit government agency in part to the Department of Health and Human Services.

(Pause.)

DR. PINN: Welcome back to Pinn Point on Women's Health. As promised, again,

we'll take a look at some of the hot flashes in the news regarding women's health research.

Well, here's an interesting bit of news that was just published in April of 2008. The news is good and the news is bad. The news is good in that a recent study looking at survival data for women and men across the United States by county is that we have seen a lessening of the overall life expectancy of men and women between the years of 1961 and 1999 with the life expectancy for men increasing from 66.9 to 74.1 years and for women from 73.5 years to 79.6 years for women.

Now it's thought that probably the primary contributor to this increase in life expectancy for women and men is mainly related to a decline in cardiovascular mortality. However, there is some other data as part of this study that shows while there has been a decline and a greater decline for men than for women in terms of lowering mortality from cardiovascular or heart and vascular disease

in women versus men that this has not been true for women and men across the country. But women have been affected more harshly than have men.

For the first time since the Spanish influenza of 1918 the life expectancy has taken a significant decrease for a number of American women. In about a thousand U.S. counties where about 12 percent of the nation's women live, in other words about 12 percent of our women in this country live in about a thousand U.S. counties, life expectancy is now shorter than it was in early 1980, in spite of the fact that overall, we're seeing an increase in life expectancy for women if we took the odds across the entire country.

The reason that this decrease is occurring is thought to be related to hypertension and chronic diseases such as smoking and obesity and resulting conditions such as lung cancer, emphysema, kidney failure

and diabetes. In other words, we need to look and give more attention to behavioral changes and cultural and societal changes that can affect the mortality of women across this country.

Now, it's interesting that men's life expectancy declined 1.3 years in only 11 counties across the U.S. And higher HIV/AIDS and homicide deaths also contributed mainly to the life expectancy decrease in men. But that was not the case for women. For women, it goes back to high blood pressure and chronic diseases related to smoking and obesity. And some have questioned as to whether or not this might mark the beginning of some of the results we're going to see long term related to the obesity epidemic in this country.

One other note, unfortunately for our friends in the state of Virginia, the two places in the United States that had the greatest decrease in life expectancy for women were in two places in the state of Virginia:

Radford City and Pulaski County. And the other major areas of decline in women's life expectancy were in the deep South, in addition to Virginia, Appalachia, the lower Midwest and one county in Maine.

We like to focus in our hot flashes on positive findings, but this is something that should alert us to the work we have left to do, especially in terms of addressing these things that can affect the mortality of women and the overall life expectancy of both women and men.

Only one other area did I want to touch on in terms of the hot flashes. And this is something positive. And while we need to wait to see what the long-term effects are, the initial reports are really quite exciting. A group of scientists at the Oregon Research Institute have demonstrated through studies they have done working on improving body image of young women, that they are getting positive results in overcoming the onset of obesity and

eating disorders.

We know we have to strike a tough balance with young women, both in terms of not wanting them to be matchstick-thin, shall we say, or suffer from eating disorders like bulimia, but on the other hand, while we want to encourage a normal body size, we obviously also want to combat the signs of obesity and prevention of obesity. And that's why this study is quite important, because it does demonstrate that at least in this study, which was funded by the National Institutes of Health, that they were able to help prevent the onset of eating disorders or obesity in a group of young people and especially young girls during a time that they might be most susceptible to developing this disorder or any one of these disorders.

So that is some positive news and given the fact that eating disorders are one of the most common problems facing young women and obesity is presently credited with over a

100,000 deaths per year in this country, it is extremely important that we continue to fund and to do and to participate in research that can help us overcome the potential problems for our women and our men in this country that may be related to eating, obesity or eating disorders.

We'll have more updates in the next podcast and coming up next I'll visit with Dr. Lynch for a discussion about stroke and women. We'll be right back with Pinn Point on Women's Health.

(Music playing.)

DR. PINN: Welcome back to Pinn Point on Women's Health. Our guest today is Dr. John Lynch who is Program Director for the Office of Minority Health and Research in the National Institute of Neurological Disorders and Stroke here at the National Institutes of Health in Bethesda, Maryland.

We are recording this podcast for the month of May and May happens to be

American Stroke Month. We think it's important, not only in the month of May, but year round for us to have a good understanding about stroke, what it means for women, how it may differ between women and men, and what we as individuals can do to prevent ourselves from having strokes or what we as health professionals should know in order to better prevent, diagnose, or treat stroke.

So let me start by asking Dr. Lynch or first saying, welcome to our podcast. Thank you for joining us.

DR. LYNCH: Thank you for having me.

DR. PINN: And I'm going to ask you to just start with giving us some general thoughts about stroke.

Why is it important that we talk about stroke, especially in a podcast related to women's health?

DR. LYNCH: Well, Dr. Pinn, stroke is a medical emergency and every minute

counts. Stroke is a major public health problem. Each year in the United States, over 780,000 people have a stroke. It's the third leading cause of death and the number one cause of long-term disability.

Stroke is really due to a problem with the blood vessels or piping system in the brain. And it occurs when there is a blockage in the pipe or if the pipe bursts. We also know that women have a higher lifetime risk of stroke. More women die from stroke than men. They typically present at a later age than men do. Women present with stroke around 75 years of age as opposed to men who present around 70.

And then there's been some recent increase in the prevalence of stroke in women in the 45 to 54 years age group.

DR. PINN: I want to just ask you a couple of things based on what you've just said and then we'll move on to look into this issue, stroke, more deeply.

One, while stroke tends to occur most often in older women, should younger women not be concerned about stroke?

DR. LYNCH: Well, as I was just saying, some recent data from NHANES showed that there was a surge in the 45-to-54 year old age group of stroke in this population. And this is very concerning.

I think that the cause of this or the reason why this is happening is probably a higher prevalence of risk factors in this age group. So knowing your risk for stroke will help you and your physician develop a prevention strategy and it may be that in younger women there are unique risk factors that need to be addressed that we aren't seeing or that we haven't addressed properly.

DR. PINN: One of the areas that we focused on in the Office of Research in Women's Health for NIH Research is to look at sex and gender differences or similarities between men and women. And I believe you have

alluded to some. We know that stroke is the third leading cause of death for both men and women in this country, but there are some differences, I believe in how it may present or how health care providers may approach them or should approach this condition in women versus men.

So could you comment? Am I mistaken or are there some differences between men and women when it comes to stroke?

DR. LYNCH: Well, as I discussed before, there are differences in the lifetime risk of stroke and that is likely due to the fact that women are presenting at an older age, that they have a longer life expectancy and we see more stroke deaths occurring in women. So overall, there's a much higher stroke burden than in the male population.

Overall, women have a higher lifetime risk of stroke than men, about 1 in 5 versus 1 in 6. And again, this is probably influenced by the longer life expectancy in

women.

Women do have a similar profile of signs and symptoms when they present with stroke when compared to men. Although in one study recently it was shown that women will present with weakness more often than men, but the studies looking at the signs and symptoms presenting, the presentation of stroke in women versus men have been mixed. But for the most part, they are very similar.

I think it is important for the listeners to know the signs and symptoms of stroke, and this is based on the size and location of the stroke, but they should know the signs and symptoms, sudden numbness, sudden confusion, sudden trouble seeing, sudden trouble walking, or sudden severe headache. When you or someone you know develops a stroke or these symptoms, you should take action and call 911 immediately.

DR. PINN: So the bottom line is if you see some numbness, sudden weakness, sudden

confusion or some sudden change that you could assume is related to the neurological system, meaning the nervous system, then one should immediately call 911. Is that your bottom line message?

DR. LYNCH: Yes, that's the message.

DR. PINN: And why is it important to call 911 if these symptoms occur? What difference is that going to make in the outcome?

DR. LYNCH: Well, we know that immediate transport to the hospital can reduce disability and death. Don't wait for symptoms to worsen or improve. Call 911 immediately and get to the hospital. We do have a medication that we can provide to individuals with ischemic stroke, it's called Tissue Plasminogen Activator, or TPA, but we must give that drug within a three-hour window.

So unfortunately, a number of stroke patients don't make it to the hospital

in time, and we're trying to raise awareness about stroke symptoms and trying to recommend to people that if they develop symptoms, they need to call 911 right away and get to the hospital as soon as possible.

DR. PINN: Since there is suspicion of stroke, this therapy that you just told us about, repeat that again and the fact that there is a three-hour window for having this to be effective, because I think it is important that that point is recognized and known so that if anyone has a relative or themselves think they're developing a stroke, they will know why it is important to call 911 immediately.

DR. LYNCH: Well, tissue plasminogen activator, or TPA, is approved for the treatment of ischemic stroke, but as I've said before, it must be given within three hours. We know based on the NINDS TPA study that individuals who received the drug after that window did not benefit from the therapy.

So it is important that we get that drug in as soon as possible. And we do know that women benefit from TPA more than men, but a recent study has shown that women are getting TPA less often than men, and that is very concerning.

DR. PINN: So that raises some of the issues about how health care providers approach conditions or whether they are likely to make the right diagnosis than know what to do in terms of treatment of women and men. In fact, I believe the study that you referred to about data occurring more in midlife stroke, stroke occurring more often in midlife women, also pointed out that perhaps one of the factors, one of the factors related to stroke and stroke in midlife women and the fact that it is the third leading cause of death in women may be because some of our health care providers don't tend to immediately make a diagnosis of cardiovascular disease risk in women and that it may not be addressed as it

should be.

So we hope that these messages that we're getting out will be heard not only by women and members of their families, but also will be heard by health care practitioners, which then brings us to the topic which you have referred to several times. But let's see if we can sort of dwell for a few minutes on specifically, what are some of the risk factors for stroke?

DR. LYNCH: Well, knowing your risk for stroke will help you and your physician develop a prevention strategy, it's important to know what risk factors increase your risk of stroke. And we clearly know that high blood pressure, diabetes, smoking, obesity and high cholesterol increase your risk of stroke. And you should talk with your physician about reducing those risk factors. Risk factor reduction is essential.

If you have high blood pressure, work with your doctor to get it under control.

If you have diabetes, take your mediation. If you smoke, quit. If you're overweight, start eating healthier, exercise regularly to manage your weight.

DR. PINN: Well, Dr. Lynch, it sounds as if many of the things that you have pointed out that are important in terms of understanding risk factors for stroke are things that we have heard that also constitute risk factors for other conditions that affect women's health like heart disease.

Certainly, we ought to know more about how to live healthy lifestyles, preserve wellness and understanding things like better diet, nutrition, controlling high blood pressure can help us in terms of preventing diabetes, preventing heart disease and preventing stroke, so if we keep drumming this message in podcast after podcast, hopefully we can make a difference and we can begin to see changes how in-life expectancy for women increase in some of these preventable diseases

can be eradicated or at least lessened.

But let me ask you, you've talked about risk factors for stroke and I think those were pretty much the same for women and men. Are there any risk factors that are different for women or are there any risk factors that are different between different cultural and ethnic groups?

DR. LYNCH: Well, there are some differences in -- between African Americans and other racial or ethnic groups. We know that stroke is more common in that population. African Americans are twice as likely as whites to suffer first-time stroke and Hispanics are 1.3 times more likely to suffer a stroke than whites in the 35 to 64 year old age group.

DR. PINN: Is that true for both men and women, since you said women tend to have strokes after age 75? For Hispanic Americans are we more apt to see stroke at a younger age in both men and women?

DR. LYNCH: Yes, it's both men and women. And you know, we're really not sure why this occurs.

I think what we do know about the differences in African Americans versus white is they tend to have a higher prevalence of risk factors. So when they present with their stroke, they may have high blood pressure, and diabetes and an additional risk factor, whereas the comparison group typically does not have the same prevalence rate of risk factors. So it's really important to control those risk factors and to reduce that risk of stroke.

DR. PINN: Are there some other risk factors that are more specific for women?

DR. LYNCH: Yes, the risk factors for stroke that are specific to women include pregnancy, oral contraceptives and post-menopausal hormonal therapy. And there's been some research looking at that. As you know, the results of the Women's Health Initiative

showed that post-menopausal hormonal therapy did not -- did increase the risk of stroke in that population. A couple of secondary prevention studies also revealed that post-menopausal hormone therapy did not reduce the risk of stroke.

So the current recommendations now are not to use post-menopausal hormonal therapy. This is something that needs to be discussed with your physicians, but in reference to stroke, it's -- it hasn't been shown to be protective and has been shown to increase the risk of stroke.

DR. PINN: And I'll remind our listeners that we have a whole podcast dealing with the results of the Women's Health Initiative with Dr. Jacques Louseau, where he goes into some detail on breast cancer risk, of risk for heart disease, and risk for stroke, as the findings of the Women's Health Initiative pointed out.

But I think it's very important to

reemphasize that and then to note specifically about issues again related to women.

I'm going to ask you to comment again because we talked again about stroke occurring most often in women after age 75. But if say that pregnancy and oral contraceptives may also be risk factors for stroke, obviously, those are in younger women in the reproductive age.

So, can you maybe just describe a typical setting in which one might see stroke associated with pregnancy or oral contraceptives, and how women of reproductive age might be on alert for perhaps the onset of a stroke, knowing it is rare, but it may occur?

DR. LYNCH: So the prevalence, or excuse me, the incidence of stroke in pregnancy is rare. It's about 34 per 100,000 pregnancies. Most of these events occur in the post-partum period, where the relative risk is about eight-fold to other times during

pregnancy, and it is really unclear as to why this occurs just in the post-partum period.

Some theories have been that there's some changes in estrogen levels and dehydration and the coagulation profile that may synergistically precipitate these events.

DR. PINN: Can you explain to the nonscientists in the audience what a coagulation profile is? Just put it in lay language?

DR. LYNCH: Sure, so during pregnancy, there are changes in the proteins that lead to a hyper-coagulatable state, or lead to clotting, and during the post-partum period, there are changes in these proteins that may push a woman towards clotting. The combination of surgery, dehydration, working together may lead to the formation of a clot in one of the blood vessels of the brain, which can lead to a stroke.

Now we do know that there are some

risk factors for stroke during pregnancy, and these include women over 35, a history of hypertension, heart disease, diabetes, some of the more common risk factors for stroke as well as a history of alcohol abuse and then thrombophilia or some underlying genetic abnormality in the coagulation pathway.

DR. PINN: What role do we think alcohol might play in stroke?

DR. LYNCH: Well, what we do know that there is a J shaped curve, meaning that individuals who don't drink at all have a higher risk of stroke than individuals who drink one to two glasses of wine a day. So in some way it's protective over individuals who don't drink at all. But once you get beyond that level of alcohol intake, your risk of stroke increases.

But it is unclear as to why this occurs.

DR. PINN: So we're not encouraging women to start drinking wine or alcohol to protect themselves from stroke, but a modest

intake may be protective. Is that sort of the most we can say right now?

DR. LYNCH: Right, that's correct.

DR. PINN: Well, I think you have talked about TPA and explained pretty well about TPA, but let me just ask you about other treatments. Are there other treatments for stroke other than TPA?

DR. LYNCH: Well, TPA is the only approved treatment for the acute ischemic stroke. Again, it should be given within a three hour window. We want to, again, raise awareness about the signs and symptoms of strokes so that people can get to the hospital as soon as possible. There are a number of other measures that we take for stroke patients. We do, for individuals, that we don't give TPA, we do put on medication, we do control their blood pressure, we control their fluid, we try to manage the size of their stroke and intra-cranial pressure, and we want to prevent complications of stroke and in the

first week, this can be an increase in the size of the stroke and pressure within the brain and it could be a deep venus strombosis in the leg because these people are bed ridden for a long period of time.

And then also pneumonia is a common complication of stroke and we want to prevent pneumonia as well.

So we do take precautions for the complications and we try to manage their pressure and their fluids as much as we can to prevent not only the complications but to prevent a second stroke and also to reduce the swelling that may occur after stroke.

DR. PINN: We've heard a lot and we talked a lot about stroke and its importance in the health of women or it's something that women should be concerned about and women and their health care providers should try to prevent. But tell me, what kind of research is being done by the National Institutes of Health or by the research community in general

that will offer some hope both in terms of prevention or in terms of better treatment or better outcomes from stroke.

DR. LYNCH: Well, the NIH recognizes the significant burden of stroke in women as well as the importance of understanding the causes, treatment and prevention of stroke in women. And currently, the NIH is conducting research on stroke in women including observational studies. These are following women over time. Research on cognitive impairment; research on carotid disease which is a major receptor for stroke; and then research on stroke prevention and basic science research, looking at the effects of estrogen on brain function, on endothelial function, in animal models to see how it relates to stroke in women.

DR. PINN: You know, what I would like to ask you to do is as we sort of bring this session, podcast to a close is to go back. You talked about a stroke and what a

stroke is and actually a stroke usually occurs when we've had disruption of blood supply to a part of the brain or a limb or whatever because of a clot involving the vessel.

But tell us, you know, I have seen people have strokes and witnessed. I even had a professor when I was in medical school who had a stroke right in front of the medical school class and it's something that you never forget.

So for people who are concerned about having a stroke themselves or seeing someone around them have a stroke, just describe for us an example. I know you have seen many people, that's your field, who have had a stroke. So let's just sort of bring it down to the lay level.

Typically, if someone is having a stroke, what might you see? Just describe what you might see.

DR. LYNCH: Sure, I think this would be an individual who all of a sudden

develops weakness on one side of their body, in the face, arm, or leg. This would come on very quickly. They may not be able to talk or communicate with another individual and they would know that clearly something was wrong. If they wanted to walk, they would fall to the ground. And then these symptoms would persist.

Again, as I've said before, the most common sign and symptom of stroke are the sudden weakness on one side of the body, confusion, trouble with vision, walking, or a severe headache with no known cause. It's important that people recognize the signs and symptoms of stroke and to call 911 immediately.

DR. PINN: I think we can't forget that message. If you think that you are having a stroke, whether you are or you aren't, if you think you are, you are justified to call 911 and have it ruled out. Why? To reiterate again, we're really driving

home this point, but I think it is important: the TPA.

DR. LYNCH: Right. We need to get the medication as soon as possible. We only have a three-hour window. We clearly know that women benefit from TPA and we need to get that drug in as soon as possible.

DR. PINN: Now I'm sure we have some people who are conductors of research themselves who may be listening to this podcast. So based on your involvement in your institute and knowing about the field of stroke and stroke research, what are some of the areas related to stroke, and specifically stroke in women, do we still need to pursue?

DR. LYNCH: Well, I think that some of the areas that we're focusing on are more acute therapies, some neuro-protective agents. Not only do we want to open up the clot, or excuse me, the blood vessel, but we want to protect the brain from the lack of blood flow that occurred.

So a combination of therapies to open up the vessel and to protect the brain are important. We also want to try to figure out, you know, how we can improve recovery. Once an injury has occurred, how can we improve the function of the brain that has been injured, and there's a lot of research looking at that. There's still a lot we don't understand, and I think that the future is hopeful that we can come up with some acute treatments, some neuro-protective agents, and some therapies to improve recovery.

DR. PINN: And that sends a message to those that conduct research or who fund research to recognize that these are areas that are priority areas for us in better addressing stroke in women as well as in men in the near future.

Well, we've covered a lot of basic things and a lot of discussion items related to stroke. So let me conclude this podcast by asking you what are some of the messages

related to stroke, stroke research, or stroke as an illness, that you would like to point out and emphasize to our listeners?

DR. LYNCH: Well, as I said initially, stroke is a medical emergency and every minute counts. Recognize the stroke signs and symptoms. When you see someone or when you or someone you know develops a stroke, take action and call 911 immediately. And again, immediate transport to the hospital can reduce disability and death. Don't wait for symptoms to worsen or improve. Get to the hospital as soon as possible.

DR. PINN: Well, I would like to thank Dr. Lynch for his very informative comments and discussion of stroke in women, about stroke in general. We've learned about its incidence. We've learned about how it affects both men and women. We've learned about how it can present. We've learned the major things we can do if we suspect someone is having a stroke, about the only really

known and approved way of treating stroke as well as some areas that need to be investigated further through research.

This, we hope, has gotten through some important points related to the third leading cause of death for women and men in this country and an area that continues to be a priority for women's health research.

Coming up next, a few final thoughts for this month when Pinn Point on Women's Health continues.

(Music playing.)

DR. PINN: And now, a few final thoughts. First, I would like to thank Dr. John Lynch from the National Institute on Neurological Disorders and Stroke for having joined us to provide an excellent discussion for us on stroke in women. I hope you have heard today things that can be of importance to you as well as to members of your family and your community if you should suspect that someone is having a stroke or if you are a

researcher in the field of stroke or cardiovascular disease.

We've also learned that perhaps one of the reasons we're seeing this increasing or continuing mortality from stroke and other forms of cardiovascular disease in women may be because not only women have typically been ill-informed about cardiovascular disease as a cause of their death or what may affect their quality of life and living, but that perhaps also that our health care providers are not as perceptive as they might be or do not as often as they should suspect the onset of cardiovascular disease until it has become manifest in both women and men, but especially in women.

So we still have a lot of work to do in terms of carrying out these thoughts and educating the members of the health care profession as well as women themselves. And, of course, we also know as we have learned related to stroke that, and as we have also

heard about in terms of heart disease in women, that there may be some standard diagnostic test, or standard treatments, that may be more apt to be used in men than in women. That's why we think it is important that we continue to address sex and gender issues in our research studies, funded by the NIH, with the idea of understanding how they can influence outcomes from diseases as well as how sex and gender differences, not only in terms of biological factors, but in the access factors in health care may affect the outcomes for therapy.

So we will continue to do our part here at the NIH to fund and give attention to various areas that affect women's health and we hope that you will continue to keep us informed with those ideas, those health conditions, or those diseases that you would like for us to feature more attention to, either through the research agenda or through our podcast for the future.

In a moment, the announcer will tell you where to send your comments and suggestions for future episodes of this podcast.

In the meantime, I am Dr. Vivian Pinn, Director of the Office of Research on Women's Health, at the National Institutes of Health in Bethesda, Maryland. Thank you.

ANNOUNCER: You can email your comments and suggestions concerning this podcast to Marsha Love, at lovem@od.nih.gov. Pinn Point on Women's Health comes from the Office of Research on Women's Health and is a production of the NIH Radio News Service, News Media Branch, Office of Communications and Public Liaison, at the Office of the Director, National Institutes of Health, Bethesda, Maryland, an agency of the U.S. Department of Health and Human Services.

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