CARDIOVASCULAR DISEASE IN WOMEN: COMMON MYTHS

KAREN WAGNER, MD
CARDIOLOGIST
KAWARTHA CARDIOLOGY CLINIC
PETERBOROUGH REGIONAL HEALTH CENTRE

April 10th, 2019
MYTH

HEART DISEASE IS FOR MEN AND CANCER IS THE REAL THREAT FOR WOMEN
LEADING CAUSES OF DEATH IN PERSPECTIVE
HEART DISEASE AND WOMEN

HEART DISEASE IS YOUR BIGGEST HEALTH THREAT.

It is the #1 killer of women worldwide and it affects women of all ages.

HEART DISEASE IS UNDER-STUDIED, UNDER-DIAGNOSED, AND UNDER-TREATED IN WOMEN.

Heart disease is different in women than in men. We need to improve knowledge and awareness.

1 in 3 women are affected by heart disease.
WHAT IS CARDIOVASCULAR DISEASE?

Heart and blood vessel disease/diseases that affect the circulatory system

- Coronary heart disease (heart attack)
- Cerebrovascular disease (stroke/TIA)
- High blood pressure
- Congestive heart failure
- Congenital defects
- Peripheral vascular disease
WHY IS AWARENESS IMPORTANT?

• Women have easy-to-miss symptoms

• Half of women who present with a heart attack had no prior warning symptoms

• Women with heart disease and strokes have a worse prognosis than men

• Women are treated differently
MYTH

MOST WOMEN DO NOT EXPERIENCE CHEST PAIN DURING A HEART ATTACK
CHEST DISCOMFORT

- Chest discomfort is the most common symptom of a heart attack in both men and women.

- Women are more likely than men to have additional non-specific symptoms, including:
  - Fatigue
  - Shortness of breath
  - Weakness
SYMPTOMS

Chest discomfort
Unusual body discomfort
Shortness of breath
Cold sweat
Nausea
## IMPACT OF GENDER ON TIME TO TREATMENT

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Mean (min)</th>
<th>Standard Deviation (min)</th>
<th>25thPercentile (min)</th>
<th>Median (min)</th>
<th>75thPercentile (min)</th>
<th>% Meeting Door-to-balloon &lt;120min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &lt;75 yrs</td>
<td>135</td>
<td>78</td>
<td>91</td>
<td>111</td>
<td>145</td>
<td>59%</td>
</tr>
<tr>
<td>Age ≥75yrs</td>
<td>153</td>
<td>79</td>
<td>104</td>
<td>128</td>
<td>169</td>
<td>46%</td>
</tr>
<tr>
<td>Male</td>
<td>131</td>
<td>74</td>
<td>90</td>
<td>109</td>
<td>142</td>
<td>62%</td>
</tr>
<tr>
<td>Female</td>
<td>160</td>
<td>87</td>
<td>105</td>
<td>131</td>
<td>180</td>
<td>40%</td>
</tr>
</tbody>
</table>

Courtesy of Dr. David Allen and Brett Hiebert- Analysis on STEMI data in WRHA
WHEN IN DOUBT, CHECK IT OUT!

Never delay getting help for your symptoms.
MYTH

WOMEN DON’T NEED TO WORRY ABOUT CVD BEFORE MENOPAUSE
HEART DISEASE IN YOUNG WOMEN

• Heart disease affects women of all ages
• Risk factors start accumulating in our 20's
• The combo of birth control pills and smoking boosts heart disease risk by 20%
ALTHOUGH LESS FREQUENT, CVD DOES OCCUR IN YOUNG WOMEN

More than 35,000 women under the age of 65 die annually in the US from CVD.
MENOPAUSE AND CVD

Traditional Paradigm:

Menopause

Minimal or no CVD Risk → Increasing Risk of CVD

Alternative Paradigm:

Increasing Risk of CVD

Menopause
CVD PROGRESSES OVER DECADES

The reality: Being premenopausal probably does not protect you from cardiovascular disease and you should be vigilant at all ages …
RISK FACTORS

MYTH

HEART DISEASE DOESN’T AFFECT WOMEN WHO ARE FIT
THE REALITY

• Inactivity and obesity are just two of many CVD risk factors, and probably not the strongest

• Exercise is great but not necessarily enough!
HEART ATTACKS IN WOMEN

Atherosclerosis

- Smoking
- High cholesterol
- Diabetes
- Hypertension
- Family history of CAD

“Normal” coronaries

- Spontaneous coronary artery dissection
- Coronary artery spasm
- Broken heart syndrome (Takotsubo’s)
MYTH

HORMONE REPLACEMENT THERAPY IS BAD FOR THE HEART
ESTROGEN

- Critical to reproductive function in men & women
- Most produced by ovaries
- Some arises from fat, liver, breasts, adrenals
- Complex physiologic effects
CHANGING ESTROGEN LEVELS WITH AGE
ESTROGEN REPLACEMENT

**THE GOOD**
- Relief of menopausal symptoms
- Reduction in osteoporosis (bone thinning) and fractures
- Cardio-protective effects??
- Improvement in lipid profile

**THE BAD**
- Breast cancer risk
- Uterine cancer risk
- Complex formulation
WOMEN’S HEALTH INITIATIVE

16,608 Post-menopausal women aged 50-79 with an intact uterus

Estrogen + Progesterone

Placebo

Study stopped after mean follow-up of 5.6 years

Hormonal replacement associated with:
- Increased heart disease (29% ↑)
- Increased stroke (41% ↑)
- Increased blood clots
- Increased breast cancer (26% ↑)
- Reduced colon cancer
- Reduced hip fracture

Conclusion: HRT should not be used to prevent disease in healthy post-menopausal women
WOMEN’S HEALTH INITIATIVE: ESTROGEN ONLY

10,739 Post-menopausal women aged 50-79 with previous hysterectomy

Estrogen Only

Placebo

Study stopped after mean follow-up of 6.8 years

Estrogen replacement associated with:
- 9% reduction in heart disease
- 39% increase stroke
- 33% increase blood clots
- No change in cancer
- 39% reduction hip fracture
## WOMEN’S HEALTH INITIATIVE: ESTROGEN ONLY

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Risk of Coronary Heart Disease</th>
<th>Risk of Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-59</td>
<td>37% reduction</td>
<td>11% reduction</td>
</tr>
<tr>
<td>60-69</td>
<td>6% reduction</td>
<td>62% increase</td>
</tr>
<tr>
<td>70-69</td>
<td>13% increase</td>
<td>21% increase</td>
</tr>
<tr>
<td>Overall</td>
<td>9% reduction</td>
<td>39% increase</td>
</tr>
</tbody>
</table>

**Conclusion:** In younger post-menopausal women post hysterectomy, estrogen alone may be beneficial

_JAMA 2007;297:1477_
ORAL VS TRANSDERMAL ESTROGEN

ORAL ESTROGEN

• Large impact on liver metabolism
• Increase in inflammatory markers
• Increase in protective HDL cholesterol

TRANSDERMAL ESTROGEN

• Bypasses liver
• No change in Inflammatory markers
• Reduction in LDL
• Improvement in “atherogenic index of plasma”
• Reduction in oxidation index
ESTROGEN REPLACEMENT THERAPY

• Estrogen therapy is reasonable for the relief of perimenopausal symptoms if started early and tapered after a few years

• Estrogen administered transdermally may be less likely to increase risk of blot clots

• Estrogen should not be given to reduce CVD risk
MYTH

HEART DISEASE RUNS IN MY FAMILY SO THERE’S NOTHING I CAN DO ABOUT IT
CVD RISK FACTORS

NON-MODIFIABLE
- Age
- Gender
- Heredity

MODIFIABLE
- Tobacco Use
- Cholesterol
- Blood pressure
- Diabetes
- Physical inactivity
- Overweight condition
PREVENTION

• Women are less likely to receive preventive treatment or guidance (ex/ cholesterol lowering therapy, therapeutic lifestyle change) than men at similar risk

• When treatment is prescribed it is less likely to be aggressive or to achieve optimal effects

• Women are 55% less likely to participate in cardiac rehab than men

PREVENTION

WHAT CAN I DO? EMPOWER YOURSELF BY KNOWING YOUR RISKS.

80% OF RISK FACTORS ARE WITHIN YOUR CONTROL TO CHANGE!

Risks include:
- Diabetes
- Smoking
- Obesity
- Physical inactivity
- Unhealthy diet
- Autoimmune diseases
- Pregnancy-related disorders
- Depression
- High blood pressure
- High cholesterol
MULTIFACETED CARE FOR PATIENTS WITH CARDIOVASCULAR RISK

- Healthy eating
- Regular physical activity
- Smoking cessation
- Management of blood sugar
- Control of blood pressure
- Vascular-protective medications
HEART HEALTHY DIET

- Lots of fruits and veg
- Whole grain foods
- Lean protein
- Limit highly and ultra-processed foods
EXERCISE

- Helps in weight loss
- Increases good cholesterol
- Decreases blood pressure

H&S recommendations:

- 150 minutes of mod-to-vigorous intensity aerobic physical activity/week

Target heart rate:

- 50-75% of max heart rate (220 – age)
BENEFITS OF EXERCISE

The diagram illustrates the relative risk of cardiovascular disease associated with different quintile groups for activity (in MET-hours per week). The risk is compared between walking and any physical exercise. Higher values on the y-axis indicate a higher relative risk. The quintile groups range from 1 to 5, with group 1 having the highest risk of 1.00 and group 5 having the lowest risk of 0.50 for both walking and any physical exercise.
WHAT CAN I DO?

Move more, sit less
This is the #1 most important thing you can do to reach and maintain a healthy weight. Choose an activity that you enjoy and that fits with your lifestyle. Aim for 30 minutes a day. (swimming, walking, stairs, etc.).

Eat heart healthy
Aim for 7 servings of fruits and/or vegetables a day. Aim for less than a teaspoon (<2400 mg) of salt a day.

Aim to lower your calorie intake by 500 kcal/day if you are above your optimal weight. Try drinking water instead of juice or a soft drink.
TALKING TO YOUR DOCTOR

• It’s never too early to think about prevention of cardiovascular disease
• Ask about a cardiovascular risk assessment
TAKE-HOME POINTS

• Women can present differently, and do worse when they do

• Women are referred less often for appropriate testing and treatment

• Women can have more complications from treatment, but still fare better than without treatment
10 TIPS FOR PREVENTION AND SELF-MANAGEMENT

Reduce salt intake. Aim for less than one teaspoon (<2400 mg) of salt a day.

Move more, sit less. Choose an activity that you enjoy and that fits with your lifestyle. Aim for 30 minutes a day.

Achieve and maintain a healthy weight. Aim for a waist circumference below 88 cm.

Increase fruits and vegetables. Aim for 7 servings of fruits and/or vegetables a day.

Reduce alcohol intake. Aim for fewer than 2 drinks per day and less than 9 drinks per week.

Manage stress. Stay connected with those who care.

Diabetes control

Take your medications as prescribed.

Monitor your blood pressure and keep a log.

If you smoke, find support to quit.
"An aspirin a day will help prevent a heart attack if you have it for lunch instead of a cheeseburger."