Women’s heartfelt concerns
Heart disease in women – its nature, risks and symptoms – is different from that in men. By Michael Lim

Are women’s hearts different from men’s?

Globally, there is a consistent trend to show that heart attacks generally occur a decade later in women as compared to men. While the natural tendency is to explain this difference by way of the female hormones, a large multinational study (INternational study) showed that 90 per cent of heart attacks could be explained by risk factors and the earlier onset seen in men could be accounted for by the higher prevalence of risk factors such as elevated cholesterol and smoking.

Female hormones

The onset of menopause in women marks the start of a significant increase in the incidence of coronary artery disease. This had spurred the belief that women’s hearts were protected by the presence of the female hormones and hence, post-menopausal women were routinely given hormone replacement therapy (HRT). However, this myth was shattered when the results of two randomised clinical trials on HRT published in the Journal of the American Medical Association, the Estrogen/progesterin Replacement Study (HERS) and the Women’s Health Initiative (WHI), showed that post-menopausal HRT not only did not prevent heart disease but instead increased the risk of stroke.

Different responses

Women respond differently. In contrast to the results of the Physician’s Health Study in men which showed that aspirin conferred a protective effect against heart attack but not stroke, the Women’s Health Study published in the New England Journal of Medicine in 2005 showed that aspirin consumption conferred a benefit for stroke but not for prevention of heart attack.

Different outcomes

Now, the bad news – women have a poorer outcome when they get a heart attack. They are at increased risk of dying during the hospital admission, developing recurrent heart attacks, going into heart failure and getting a stroke. Is this difference in outcome a biological effect or a treatment bias, or both?

The CRUSADE Quality Improvement Registry published in the Journal of the American College of Cardiology in 2005 examined the sex disparity and found that as compared to men, women were less likely to undergo procedures for their heart arteries and were less likely to receive optimal guideline-based medication after hospital discharge.

Both the RESCATE study and The Get with the Guidelines Coronary Artery Disease Database showed that incidence of early death from a heart attack was about double or more in women when compared to men, and women were also less likely to get optimal therapy.

The good news from these studies is that this difference in outcomes between women and men can potentially be narrowed by providing an equally aggressive approach to deliver optimal medical therapy and to provide options to open obstructed heart arteries for women.

Women have an increased coronary artery bypass graft operative mortality of up to twofold, especially younger women, and also an increased risk of bleeding. Fortunately, for women who require opening of blocked heart arteries by balloons and stents (cylindrical metallic mesh), the outcomes are comparable to that in men.

The Venus factor

Intrinsic biological differences between women and men may explain a 25 per cent increased coronary risk among female smokers as compared to male smokers as demonstrated in a meta-analysis of more than two million by Huxley and researchers published in Lancet in 2011.

Intrinsic biological differences between women and men may explain an increased resting pressure in the heart chamber. This high resting pressure increases the resistance for oxygenated blood flowing from the low pressure lung circulation to flow in the left heart chambers. This may sometimes cause congestion of the lungs and shortness of breath. In severe cases, water enters the lung and sudden heart failure results. The good news is that this can easily be prevented by decreasing liquid intake for the period when there is shortness of breath as the hearts in women are sensitive to changes in the volume of blood in the body. Understanding that women’s hearts respond differently and behave differently from men will enable doctors to recognise women’s heart disease symptoms earlier, provide better treatment and ultimately improve outcomes.

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