Cardiovascular disease in females—new perspectives on lifelong risks

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While heart disease is the number one cause of death in both sexes, it poses special considerations in women—with risks often beginning in childhood and changing at different stages of life. Insights on cardiovascular disease (CVD) risk in women and girls throughout the life span are shared in a special symposium feature in the June issue of The American Journal of Medical Sciences.

Two symposium papers seek to increase understanding of CVD risk in female patients: from childhood and adolescence, through the reproductive years, to menopause and beyond. The papers were originally presented at the 2015 Southern Regional Meeting, an annual educational conference sponsored by the SSCI in partnership with other Southern medical organizations.

High Blood Pressure Is Key Risk Factor in Women

Dr. Marie "Tonette" Krousel-Wood of Tulane University, New Orleans, focuses on hypertension (high blood pressure) and health behaviors in women and girls. Despite progress in CVD prevention, rates of coronary heart disease continue to rise in middle-aged women—mirroring the increase in obesity. Although hypertension increases with age in both sexes, the increase is more pronounced in women after menopause. After age 60, the prevalence is higher in women than men.

Low adherence—not taking medications as prescribed—is a major

barrier to effective blood pressure control. Poor adherence is a special problem in the growing number of children with hypertension. In adults, adherence may be worse in women than men.

"Despite the negative impact of low adherence on disease control, healthcare providers do not routinely assess adherence in clinical practice," Dr. Krousel-Wood writes. Specific risk factors for low adherence in women may include poor communication with healthcare providers and symptoms of depression.

Recent studies suggest that measuring adherence—asking patients how well they follow their prescription as well as checking pharmacy refill rates—can predict CVD risks in patients with hypertension. Dr. Krousel-Wood concludes, "Together, the objective and self-reported adherence measures provide complementary information that can guide appropriate engagement of patients and providers in the management of high blood pressure and other chronic conditions."

Timing May Affect CVD Prevention with Hormone Therapy

Dr. Suzanne Oparil and colleagues of University of Alabama at Birmingham provide an update on the "timing hypothesis" of estrogen's effects on postmenopausal CVD risk. Some studies have reported that taking estrogen supplements after menopause can reduce CVD risk—yet randomized trials have found no benefit of hormone replacement therapy.

The timing hypothesis suggests that hormone replacement lowers CVD risk if started around or soon after menopause, while later estrogen replacement increases risk. Animal studies suggest that the hormone 17-beta estradiol (E2) delays CVD progression and reduces the response

to vascular injury.

In preliminary human studies, responses to E2 are affected by time since menopause—perhaps reflecting changing levels of estrogen receptors. Further studies to clarify the effects of aging on cellular responses to estrogen are needed, and may lead to the development of "estrogen rescue" approaches and new opportunities to using E2 for CVD prevention.

Drs. Krousel-Wood and Oparil hope their reports will further increase attention to CVD risk in female patients at all stages of life. In an introductory editorial, Dr. Daniel Villarreal of SUNY Upstate Medical University writes, "Their insightful analyses establish clear present and future directions for the investigation and management of this ever-growing and challenging problem."

More information:
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