Defense Health Agency (DHA) Clinical Communities Speaker Series

2024 FEB CCSS: Clinical Considerations and Current Trends in Women's Health

2024 FEB CCSS S01: An Analysis of Cardiovascular and Hypertensive Disease in Pregnancy: Outcomes and Disparities

Resource List

According to research funded by the National Heart, Lung, and Blood Institute (NHLBI) (2023), women who experienced complications related to developing high blood pressure, or hypertension, during pregnancy had a 63% increased risk for developing cardiovascular disease later in life. While hypertensive pregnancy complications previously have been linked to increased cardiovascular risks, the current study controlled for pre-pregnancy shared risk factors for these types of complications and cardiovascular disease. Researchers also found that high blood pressure, high cholesterol, type 2 diabetes, or being overweight or obese after pregnancy accounted for most of the increased risk between pregnancy complications and future cardiovascular events.

The Food and Drug Administration (FDA) (2023) granted marketing authorization of the B·R·A·H·M·S sFlt-1/ PlGF KRYPTOR Test System (BRAHMS GmbH, Part of Thermo Fisher Scientific) to aid in the risk assessment of certain pregnant women hospitalized for hypertensive disorders (preeclampsia, chronic hypertension with or without superimposed preeclampsia, or gestational hypertension) for the progression to preeclampsia with severe features. The test system is an automated immunofluorescent assay that uses Time-Resolved Amplified Cryptate Emission (TRACE) technology for the quantitative detection of placental biomarkers, Placental Growth Factor (PlGF) and Soluble Fms-like tyrosine kinase-1 (sFlt-1) in human serum and plasma. is to be used in conjunction with other laboratory tests and clinical assessments to aid in the risk assessment of pregnant women for progression to preeclampsia with severe features (as defined by the American College of Obstetricians and Gynecologists (ACOG)External Link Disclaimer guidelines) within 2 weeks of presentation.

According to the authors of Visual morbidity and spectrum of ophthalmic changes in pregnancy induced hypertension (2022), out of 153 patients, 78 (50.98%) were primigravida, 55 (35.95%) were gravida 2, and 20 (13.07%) were multigravida. Gestational age ranged from 23-40 weeks. Ocular changes were seen in 57% of the PIH patients. Hypertensive retinopathy was seen in 23.53% of PIH patients with a mean age of 29.06 ± 4.36 years. Grade 1 hypertensive retinopathy was the most common manifestation in PIH patients (51.16%). The visual loss occurred in 72% of eclampsia and12% of pre-eclampsia which was statistically significant (P = 0.03). Papilledema was seen in 6% and refractive error in 41% of the patients.

This statement from the American Heart Association (2021) summarizes evidence that adverse pregnancy outcomes (APOs) such as hypertensive disorders of pregnancy, preterm delivery, gestational diabetes, small-for-gestational-age delivery, placental abruption, and pregnancy loss increase a woman's risk of developing cardiovascular disease (CVD) risk factors and of developing subsequent CVD (including fatal and nonfatal coronary heart disease, stroke, peripheral vascular disease, and heart failure). Adopting a heart-healthy diet and increasing physical activity among women with APOs, starting in the postpartum setting and continuing across the life span, are important lifestyle interventions to decrease CVD risk. Lactation and breastfeeding may lower a woman's later cardiometabolic risk. Black and Asian women experience a higher proportion APOs, with more severe clinical presentation and worse outcomes, than White women. Future studies of aspirin, statins, and metformin may better inform our recommendations for pharmacotherapy in primary CVD prevention among women who have had an APO.

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References

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