News and Views

Cardiovascular and Mortality Benefits of SGLT2 Inhibitors

Sodium-glucose cotransporter-2 (SGLT2) inhibitors significantly reduce the incidence of major adverse cardiovascular events, cardiovascular death, and hospitalization for heart failure in patients with varying levels of risk for kidney disease[1]. Greater benefits were observed in those at high risk.

Bernardo F Spiazzi from the Federal University of Rio Grande do Sul, Porto Alegre in Brazil and colleagues conducted this systematic review and meta-analysis of large, randomized, placebo-controlled trials of SGLT2 inhibitors, up to Aug. 8, 2023, with a minimum study duration of one year. Fourteen trials, covering 97,412 participants with a median follow-up of 2.5 years were included for the final analysis. The study aimed to evaluate the impact of SGLT2 inhibitors on cardiovascular outcomes and mortality across different KDIGO and urinary albumin-to-creatinine ratio (UACR) risk groups. The overall risk of bias was low.

SGLT2 inhibitors were found to significantly reduce major adverse cardiovascular events (MACE) (HR 0.89), cardiovascular death or hospitalization for heart failure (HR 0.78), all-cause mortality (HR 0.89) and hospitalization for heart failure (HR 0.71). The benefits of SGLT2 inhibitors on MACE were particularly pronounced in KDIGO very high-risk group (HR 0.72) and those with UACR > 300 mg/g (HR 0.76).

This study demonstrates that SGLT2 inhibitors are associated with marked reductions in cardiovascular outcomes and mortality. Their impact on MACE varied significantly across KDIGO groups. While their use was associated with significant improvements in cardiovascular outcomes, patients in the high-risk groups for kidney disease benefited the most.

Reference

1. Spiazzi BF, et al. SGLT2 inhibitors, cardiovascular outcomes, and mortality across the spectrum of kidney disease: A systematic review and meta-analysis. Diabetes Res Clin Pract. 2024 Dec:218:111933.

Ferritin: A Biomarker for Postpartum Abnormal Glucose Metabolism in Women with Gestational Diabetes

Raised mid-pregnancy ferritin levels are significantly and independently linked to an increased risk of postpartum abnormal glucose metabolism in women with a history of gestational diabetes mellitus (GDM), as per a study published in the journal Nutrition & Diabetes[1].

The study aimed to ascertain the association between mid-pregnancy ferritin levels and the risk of postpartum abnormal glucose metabolism in women with GDM enrolled between January 2016 and January 2021. Demographic characteristics, medical history and family history, and pregnancy complications were noted.

Out of 916 participants, 33.5% exhibited abnormal glucose metabolism on postpartum oral glucose tolerance test. Significantly higher mid-pregnancy ferritin levels were observed in women with postpartum abnormal glucose metabolism compared to those with normal glucose tolerance (NGT); 23 μg/L vs 17.80 μg/L.

More number of women with abnormal glucose metabolism (vs NGT) had ferritin levels ≥30 μg/L; 43.6% vs 31.4%, respectively. A ferritin level ≥30 μg/L was associated with a 1.56 times higher risk of postpartum abnormal glucose metabolism.

These findings underscore the importance of cautious iron supplementation during antenatal care, especially for non-anemic women with GDM who are at high risk of developing diabetes after delivery.

Reference

1. Li N, et al. Association of mid-pregnancy ferritin levels with postpartum glucose metabolism in women with gestational diabetes. Nutr Diabetes. 2024 Sep 27;14(1):77.