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“Adverse pregnancy outcomes in gravid patients with stage 1 hypertension: does low-dose aspirin reduce the occurrence of preeclampsia?”

Objective: Stage 1 hypertension (HTN) in birthing persons is associated with adverse pregnancy outcomes such as severe preeclampsia, small for gestational age (SGA) neonates, and medically indicated preterm birth when compared to normotensive birthing persons. ACOG recommends low-dose aspirin as a prophylactic measure to prevent severe preeclampsia for birthing persons with Chronic HTN (CHTN) in pregnancy. However, ACOG has yet to include Stage I HTN as an indication for low-dose aspirin use in pregnancy. In this study, we aim to determine if prophylactic low-dose aspirin in pregnancies with Stage 1 HTN lowers rates of adverse pregnancy outcomes. To understand this, we must identify how prominent Stage I HTN is in our patient population, how often it is identified appropriately before 20 weeks gestation, and if low-dose aspirin therapy was recommended for the prevention of preeclampsia.

Methods: A retrospective cohort study was initiated for deliveries at a community hospital from Jan 2017- Dec 2021. Current and past hypertensive disorders were recorded upon intake into prenatal care and on admission for delivery while other adverse delivery outcomes were recorded after delivery. Patients > 20 wga were grouped into three categories: normotensive, Stage I HTN, or CHTN. Stage 1 HTN was defined as a blood pressure of 130-139/80-89, and CHTN was defined as blood pressure > 140/90 before 20 wga. Patients were excluded based on incomplete records, multi-fetal gestations, and pregnancies with known genetic or structural defects in the fetus.

Results: Pregnancy and postpartum blood pressure trends were reviewed in 733 deliveries. Of those deliveries, 84% of patients had complete records available for review. Distributions of blood pressure trends were normal BPs (52%), Stage I HTN (33%) and CHTN (15%). Stage I HTN was properly identified in only 5% of pregnancies. In total, prophylactic aspirin was used in 22 of 202 patients (11.5%) of patients with Stage I HTN for other high risk factors for preeclampsia in pregnancy. This is in comparison to aspirin use in 43% of patients with CHTN.

Conclusion: Our patient population is unique because of the high prevalence of the preexisting HTN disorders prior to pregnancy. Maternal cardiovascular disease is a leading cause of maternal morbidity and mortality in the State of Louisiana therefore additional steps must be taken to prevent adverse pregnancy outcomes such as severe preeclampsia. Our next steps are to determine if low-dose aspirin is beneficial in preventing adverse pregnancy outcomes in birthing persons with Stage 1 HTN and how these outcomes compare to patients with CHTN.