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IS THERE A DOSE DEPENDENT BENEFIT OF ASPIRIN USE IN THE PREVENTION OF PREECLAMPSIA DURING PREGNANCY?

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Background:
Hypertensive disorders, including preeclampsia, impact approximately 10.8% of all pregnancies in the United States. Use of low-dose aspirin (ASA) has been shown to reduce the likelihood of developing preeclampsia.

Purpose:
We aimed to evaluate whether the use of ASA reduces the likelihood of developing preeclampsia within our patient population and to determine whether there is a dose-dependent effect.

Methods:
- Retrospective review of individuals with diagnosis of chronic hypertension or history of pregnancy induced hypertension (PIH)
- 01/2016-12/2020
- Excluded if prenatal care or delivery at different hospital
- Grouped as: no-ASA use vs. Any ASA use
- Grouped as: no-ASA use vs. 81 mg vs. 162 mg
- Descriptive statistics; Chi-squared tests
What we found

• Overall, 955 pregnant patients with 1101 pregnancy episodes were included.
  • ASA documented in 607 (55.1%) episodes:
    • ASA 81mg prescribed in 533 (87.8%)
    • ASA 162mg prescribed in 74 (12.2%)

• There were no significant differences in antepartum PHI episodes (162 [32.8%] no-ASA vs. 206 [33.9%] any ASA use; p=0.69) or postpartum PIH episodes (82 [16.6%] no-ASA vs. 87 [14.3%] any ASA use; p=0.34).

• There were also no significant differences in antepartum PIH episodes (162 [32.8%] no-ASA vs. 185 [34.7%] ASA 81mg vs. 21 [28.4%] ASA 162mg, p=0.51) or postpartum PIH episodes (82 [16.6%] no-ASA vs. 76 [14.3%] ASA 81mg vs. 11 [14.9%] ASA 162mg, p=0.62) when comparing dose.

• Sub-analyses looking at no-ASA use vs. any ASA use found no significant difference in the development of PIH in patients with a history of hypertension, chronic hypertension, or pregestational diabetes.
What it means and next steps

While other studies have demonstrated a significant reduction in the development of PIH with ASA use, our study found no significant difference in the development of PIH among pregnant patients regardless of ASA use and dose.

Further prospective studies may be needed to ensure medication adherence when evaluating dose dependent response to ensure patient medication compliance.