TOOLS FOR PRACTICE #349 | October 2, 2023

TOOLS FOR PRACTICE

PEER

An ASA a day when a baby's on the way?

CLINICAL QUESTION

Is acetylsalicylic acid (ASA) effective in preventing complications in pregnant women at risk of preeclampsia?

BOTTOM LINE

In women at risk for preeclampsia at ~12-28 weeks gestation, low-dose ASA (50-150mg) reduces risk of preeclampsia by an absolute ~2%, perinatal death by ~0.5%, and preterm birth by ~2% compared to placebo. The risk of postpartum hemorrhage is increased by up to ~1%.

EVIDENCE

- 7 systematic reviews (17-77 randomized controlled trials [RCTs]; 26,952-46,568 patients) from the last 5 years comparing ASA to placebo in pregnant women at varying preeclampsia risk.[1-7] ASA usually initiated ~12-28 weeks, continued until delivery. Results statistically significant unless indicated.
    - Maternal Outcomes:
        - Preeclampsia: 5 systematic reviews (16-60 RCTs):[1-5]
            - 4.5-9.6% versus 5.8-11.8% (placebo), number needed to treat (NNT)=31-72.
        - Placental abruption: 3 systematic reviews (9-29 RCTs):[1,3,4]
            - 0.9-1.3% versus 0.7-1.2% (placebo) (not statistically different).
        - Postpartum hemorrhage (>500-1000mL blood loss): 4 systematic reviews (9-19 RCTs):[1,3,4,6]

        - 3.7-15.2% versus 3.3-14.3% (placebo), number needed to harm (NNH)=97-239 (1/4 systematic reviews not statistically different).[4]
    - Fetal outcomes:
        - Perinatal death: 3 systematic reviews (11-52 RCTs):[1,3,4]
            - 2.1-3.1% versus 2.7-3.5% (placebo), NNT=179-239.
        - Preterm delivery/birth: 2 systematic reviews with comprehensive data (18-47 RCTs):[1,3]
            - 15.9-16.6% versus 17.5-18.5% (placebo), NNT=54-64.
        - Fetal intracranial bleed: 1 systematic review (6 RCTs):[4]
            - Not statistically different.
    - Limitations: Inconsistent definitions of patients at risk for preeclampsia; infrequent reporting of serious maternal outcomes (examples: eclampsia, death); some large RCTs not included in all systematic reviews.

CONTEXT

- No clear difference in outcomes between 50-150 mg daily.[1,3-5,7]
- Earlier initiation (<16-20 weeks) may enhance preeclampsia benefit based on subgroup analyses. No consistent trends for other outcomes.[1-4,7]
- Sensitivity of clinical risk factors for predicting pre-eclampsia is <40%.[8]
- Guidelines vary:
    - Common recommendations among guidelines for ASA use include, but not limited to:
        - Any high-risk factors (examples: prior preeclampsia, chronic hypertension, renal or autoimmune disease, diabetes) or,
        - At least 2 moderate-risk factors (examples: nulliparity, age >35-40, previous adverse pregnancy outcome).
    - Canadian: ASA 81-162mg daily preferably before 16 weeks until 36 weeks gestation.[8]
    - American: ASA 81mg daily initiated between 12-28 weeks gestation (optimally before 16 weeks) until delivery.[9]

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