Daily Aspirin Reduces Preterm Preeclampsia in High-Risk Pregnancies

Study demonstrates risk of preterm delivery with preeclampsia significantly lower with aspirin versus placebo.

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July 3, 2017 – Pregnant women at high risk for preeclampsia were less likely to have a preterm delivery with preeclampsia when treated with low dose aspirin, according to the results of a new multicenter trial.

"Major challenges in modern obstetrics are the identification of women at high risk for preterm preeclampsia early in pregnancy and interventions to reduce the prevalence of the disease," according to Daniel Rolnik, MD, with King's College Hospital, in London, United Kingdom, and colleagues. The authors published their findings in a June 28 advance online publication of the *New England Journal of Medicine*.

The American College of Obstetricians and Gynecologists (ACOG) currently recommends the use of aspirin in women with a history of preeclampsia in more than one pregnancy or a history of preeclampsia that resulted in a preterm delivery (before 34 weeks gestation). However, the authors point out that this approach only identifies a small percentage of at-risk women who may benefit from the use of aspirin.

The current study utilized an alternative screening approach, using Bayes' theorem to combine maternal risk factors with biophysical and biochemical measurements obtained between 11 to 13 weeks gestation, in order to better identify a broader at-risk patient population.

This double-blind, placebo-controlled trial included 1,776 women with singleton pregnancies at high risk for preterm preeclampsia. Patients received either aspirin 150 mg or placebo daily from 11 to 14 weeks of gestation until 36 weeks of gestation. The primary endpoint was defined as delivery with preeclampsia before 37 weeks of gestation (preterm preeclampsia).

Overall, aspirin therapy significantly reduced the incidence of preterm preeclampsia in the study (13 patients in the aspirin group [1.6%] versus 35 patients in the placebo group [4.3%], P = 0.004). There were no significant differences between treatment groups in the incidence of any secondary outcomes (adverse outcomes of pregnancy before 34 weeks of gestation, before 37 weeks of gestation, and at or after 37 weeks of gestation; stillbirth or neonatal death, neonatal therapy; low birth weight).

The rate of adverse events (including major and minor bleeding) did not differ between the two therapies (207 versus 210 patients with at least one adverse event for aspirin versus placebo).

The authors concluded that, in patients identified as high risk for preterm preeclampsia in the first trimester, “the administration of aspirin at a dose of 150 mg per day from 11 to 14 weeks of gestation until 36 weeks of gestation resulted in a significantly lower incidence of preterm preeclampsia than with placebo.”

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Rolnik DL, Wright D, Poon LC, et al. Aspirin versus Placebo in Pregnancies at High Risk for Preterm Preeclampsia [published online June 28 2017]. *N Engl J Med*. 2017. doi: 10.1056/NEJMoa1704559.