Details for This Review

**Study Population:** Women at more than 24 weeks' gestation in active labor with meconium-stained amniotic fluid

**Efficacy End Points:** Neonatal sepsis avoided, intrapartum chorioamnionitis avoided, postpartum endometritis avoided, or neonatal intensive care admission avoided

**Harm End Points:** None measured

**Narrative:** Meconium-stained amniotic fluid occurs in approximately 12% of all deliveries and increases the risk of maternal complications (e.g., dystocia, operative delivery, and postpartum endometritis) and neonatal complications (e.g., sepsis, admission to the neonatal intensive care unit [NICU], and meconium aspiration syndrome). This review sought to determine if intrapartum antibiotics, specifically ampicillin-sulbactam (Unasyn), given to women in labor with meconium-stained amniotic fluid could limit these complications.

Two randomized controlled trials involving 362 pregnant women in labor with meconium-stained amniotic fluid were included in this analysis. Both compared administration of ampicillin-sulbactam intravenously with normal saline. In this analysis, there was no significant reduction in the primary outcome of neonatal sepsis (5% in both groups; risk ratio [RR] = 1.00; 95% confidence interval [CI], 0.21 to 4.76) or the secondary outcomes of postpartum endometritis and NICU admissions. No serious adverse effects were reported.

For the secondary outcome of chorioamnionitis, there was a significant reduction (RR = 0.36; 95% CI, 0.21 to 0.62) with the use of intrapartum antibiotics compared with placebo. This corresponds to a number needed to treat of 7 to prevent one episode of chorioamnionitis. There were nonsignificant reductions in the risk of postpartum endometritis (RR = 0.4; 95% CI, 0.18 to 1.38) and NICU admissions (RR = 0.83; 95% CI, 0.39 to 1.78).

**Caveats:** This review has several limitations, including a low number of studies and patients. This may have contributed to the inability to determine a significant difference in neonatal sepsis, postpartum endometritis, and NICU admissions (although the latter two had nonsignificant reductions favoring intrapartum antibiotics). The domains for risk of bias in one study were mostly rated as low, whereas the other study had uncertain risk of bias across all domains. The quality of evidence for chorioamnionitis was considered moderate, whereas the quality of evidence for neonatal sepsis, postpartum endometritis, and NICU admissions was considered low. The review sought to identify studies that reported antibiotic adverse effects, such as allergy or anaphylactic shock, and antibiotic resistance, but no studies with reported data were found. The particular
harm of intrapartum antibiotics in this clinical context remain uncertain. The general harms of intravenous antibiotics (e.g., allergic reactions, antibiotic resistance, Clostridium difficile-associated diarrhea) are known, however, and may outweigh the benefits identified in this review.1

This review concluded that there is insufficient evidence to recommend prophylactic intrapartum antibiotics in laboring women with meconium-stained amniotic fluid because of the lack of difference in rates of neonatal sepsis between the antibiotic and placebo groups.1 Further studies are needed to determine the benefits and harms of intrapartum antibiotics for meconium-stained amniotic fluid in preventing neonatal sepsis.

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References