When could use of antenatal corticosteroids in the late preterm birth period be beneficial?

According to new Society of Maternal-Fetal Medicine (SMFM) recommendations, which are based on a large randomized trial, use is beneficial among: singleton gestations between 34 weeks 0 days and 36 weeks 5 days at high probability risk of delivery in the late preterm period either due to spontaneous labor with cervical change (at least 3-cm dilation or 75% effacement), preterm premature rupture of the membranes, or a planned delivery scheduled in the late preterm period due to specific obstetric indications, such as oligohydramnios, preeclampsia, gestational hypertension, and intrauterine growth restriction.

FAST TRACK

Based on ALPS trial results, and within specific parameters, SMFM now recommends steroid treatment for women at high risk for late preterm birth

Gyamfi-Bannerman C, Thom EA, Blackwell SC, et al; NICHD Maternal-Fetal Medicine Units Network. Antenatal betamethasone for women at risk for late preterm delivery. N Engl J Med. 2016;374(14):1311–1320.

Society for Maternal-Fetal Medicine (SMFM) Publications Committee. Implementation of the use of antenatal corticosteroids in the late preterm birth period in women at risk for preterm delivery. doi: http://dx.doi.org/10.1016 /j.ajog.2016.03.013.

▶**EXPERT COMMENTARY**

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The use of antenatal corticosteroids for preterm deliveries between 24 and 34 weeks has been standard of care in obstetric practice. But approximately 70%

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of preterm deliveries in the United States occur after 34 weeks, in the so-called late preterm period (34 weeks 0 days to 36 weeks 6 days). Recently, Gyamfi-Bannerman and colleagues at the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network completed a trial that examined the use of antenatal betamethasone in women at risk for delivery in the late preterm period.

Details of the study

The Antenatal Late Preterm Steroids (ALPS) trial was a randomized, double-blind, placebo-controlled study that included women with a singleton gestation between 34 weeks 0 days and 36 weeks 5 days who had a high probability risk of delivery in the late preterm period. The authors defined "high probability of delivery" as spontaneous labor with cervical change (at least 3-cm dilation or 75% effacement), preterm

> ## WHAT THIS EVIDENCE MEANS FOR PRACTICE
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> In light of the new SMFM recommendations, in my practice, I will adhere to the inclusion criteria used in the ALPS study, and be careful not to apply the same approach used before 34 weeks, when delivery is often delayed intentionally in order to achieve steroid benefit. If considering adoption of this same practice, clinicians should not use tocolytics when administering corticosteroids in the late preterm period. When indicated, such as in women with severe preeclampsia or ruptured membranes, delivery should not be delayed. A patient with high probability of delivery in the late preterm period is eligible for treatment as long as the clinician thinks that she is not going to deliver within 12 hours. On the other hand, clinicians should not overtreat women, and should maintain a high suspicion for delivery in patients with preterm labor (a cervix that is at least 3 cm dilated or 75% effaced).
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> The ALPS trial did not allow the administration of more than one course of steroids. The eligibility criteria for corticosteroid use in the late preterm period should not be extended to include subpopulations that were not studied in the trial (including patients with multiple gestations, pregestational diabetes, or those who already had received a complete course of steroids).
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premature rupture of the membranes, or a planned delivery scheduled in the late preterm period for specific obstetric indications, such as oligohydramnios, preeclampsia, gestational hypertension, and intrauterine growth restriction.

Women were excluded from the study if they had previously received a course of steroids or had multiple gestations, pregestational diabetes, chorioamnionitis, or were expected to deliver in less than 12 hours due to advanced labor, vaginal bleeding, or non-reassuring fetal status.

Study participants were randomly assigned to receive 2 doses (12 mg intramuscularly) of betamethasone 24 hours apart (1,429 participants) or identical-appearing placebo (1,402 participants). Tocolysis was not allowed in the protocol.

Positive outcomes for neonates

The use of corticosteroids was associated with a significant reduction in the primary outcome of need for respiratory support in the first 72 hours of life (14.4% in the placebo group vs 11.6% in the betamethasone group; relative risk [RR], 0.80; 95% confidence interval [CI], 0.66–0.97; P = .02). Steroid use also decreased the incidence of severe respiratory complications, the need for resuscitation at birth, the need for surfactant therapy, the incidence of transient tachypnea of the newborn, and the incidence of bronchopulmonary dysplasia. Neonatal hypoglycemia was more frequent among infants exposed to betamethasone (24% vs 15%; RR, 1.6; 95% CI, 1.37–1.87; P<.001).

New guidelines issued

The ALPS study is the largest randomized trial to evaluate the benefit of antenatal steroids during the late preterm period. The study's findings certainly will change clinical practice. Based on the study's large sample size, rigorous design and protocol, and a cohort generalizable to the US population, SMFM has issued new recommendations for practitioners on using antenatal steroids in the late preterm period in women at risk for preterm delivery. ⊘

FAST TRACK

Clinicians should not use tocolytics when administering corticosteroids in the late preterm period