USE OF ANTENATAL CORTICOSTEROIDS FOR INDIVIDUALS AT RISK FOR LATE PRETERM DELIVERY

LATE PRETERM = 34th-36th EGA

The Antenatal Late Preterm Steroids Trial

<table>
<thead>
<tr>
<th>WHAT</th>
<th>Randomized women 34th to 36th EGA who were at high risk for late preterm delivery and had not received a previous course of antenatal corticosteroids to receive betamethasone or placebo</th>
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</thead>
<tbody>
<tr>
<td>RESULT</td>
<td>antenatal corticosteroid administration in the late preterm period was associated with</td>
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<td>↓ need for respiratory support</td>
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<td>↓ severe respiratory morbidity composite outcome</td>
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Delivery should not be delayed when indicated to complete a steroid course in the late preterm period

If ALL of the following:
- Singleton pregnancy
- 34th to 36th EGA
- At risk of preterm birth within the next 7 days t before 37w of gestation
- Meet inclusion criteria of the ALPS trial

Recommend offering a single course of antenatal corticosteroids (2 doses of 12mg of intramuscular betamethasone 24 hours apart) ★ GRADE 1A

If ANY of the following:
- Low likelihood of delivery before 37w EGA ★ GRADE 1B
- Pregestational diabetes ★ GRADE 1C

Recommend AGAINST course of antenatal corticosteroids

Inclusion criteria for ALPS trial:
- Singleton pregnancy (a twin pregnancy reduced to singleton [either spontaneously or therapeutically] before 14 0/7 weeks of gestation by study criteria was acceptable)
- Gestational age at randomization between 34 0/7 and 36 5/7 weeks of gestation confirmed by study criteria
- High probability of delivery in late preterm period:
  - Preterm labor with intact membranes, and cervix greater than or equal to 3cm dilated or 75% cervical effacement
  - Spontaneous rupture of the membranes
  - Expected preterm delivery for any other indication (eg, gestational hypertension/preeclampsia, fetal growth restriction, oligohydramnios) via induction or cesarean between 24 hours to 7 days after the planned randomization, as determined by the obstetric provider

Exclusion criteria for ALPS trial:
- Prior antenatal corticosteroid course for fetal lung maturation during the current pregnancy
- Candidacy for stress-dose corticosteroids
- Twin gestation reduced to a singleton gestation on or after 34 0/7 weeks of gestation
- Fetofetal demise, known major fetal anomaly, or two or more minor fetal anomalies
- Maternal contraindication to betamethasone
- Pregestational diabetes
- Delivery expected within 22 hours of randomization:
  - Ruptured membranes in the presence of more than 6 contractions per hour or cervical dilation of 3 centimeters or more unless oxytocin was withheld for at least 12 hours (although other induction agents were allowed)
  - Chorioamnionitis
  - Cervical dilation of 8 cm or more
  - Evidence of non-reassuring fetal status requiring immediate delivery

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- Can consider for select patients excluded in the ALPS trial
  - eg, multiple gestations reduced to singleton on or after 36th EGA
  - Fetal anomalies
  - Delivery expected ≤ 22h

★ GRADE 2C

Twin late preterm birth
- Paucity of data for the effectiveness of antenatal corticosteroids
- Suggest shared decision-making regarding administration

IMMEDIATE risks
- Neonatal hypoglycemia
  - Occurs more frequently in infants exposed to antenatal corticosteroids
  - Independently associated with developmental delays among pre-school-aged children born 32-35th EGA
  - In the ALPS trial, more common in the betamethasone group than the placebo group
  - In majority, hypoglycemia resolves in <24 hours

LONG-TERM risks
- Data on long-term neurodevelopmental effects are inconsistent
- Animal studies: in vitro exposure to exogenous corticosteroids may affect fetal brain development
- RCTs found no ↑ risk of neurologic impairment in children born after single course of corticosteroids
- Different outcomes have been observed after multiple courses of antenatal corticosteroids

We recommend that patients at risk for late preterm delivery be thoroughly counseled regarding the potential risks and benefits of antenatal corticosteroid administration and be advised that the long-term risks remain uncertain

★ GRADE 1C