POSTTERM
PREGNANCY

Ina S. Irabon, MD, FPOGS, FPSRM, FPSGE
Obstetrics and Gynecology
Reproductive Endocrinology and Infertility
Laparoscopy and Hysteroscopy
Reference

POSTTERM PREGNANCY

- 42 completed weeks—294 days—or more from the first day of the last menstrual period
- two categories of pregnancies that reach 42 completed weeks:
  - (1) those truly 40 weeks past conception
  - (2) those of less-advanced gestation but with inaccurately estimated gestational age

Postterm Pregnancy
Table 43-1. Pregnancy Outcomes in 56,317 Consecutive Singleton Pregnancies Delivered at or Beyond 40 Weeks at Parkland Hospital from 1988 through 1998

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Weeks’ Gestation</th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 (n = 29,136)</td>
<td>41 (n = 16,386)</td>
<td>42 (n = 10,795)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal outcomes (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor induction</td>
<td>2</td>
<td>7</td>
<td>35</td>
<td>&lt; .001</td>
<td></td>
</tr>
<tr>
<td>Cesarean delivery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dystocia</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>&lt; .001</td>
<td></td>
</tr>
<tr>
<td>Fetal distress</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>&lt; .001</td>
<td></td>
</tr>
<tr>
<td>Perinatal outcomes (per 1000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal ICU</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>&lt; .001</td>
<td></td>
</tr>
<tr>
<td>Neonatal seizures</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>Stillbirth</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td>Neonatal death</td>
<td>0.2</td>
<td>0.2</td>
<td>0.6</td>
<td>.1/</td>
<td></td>
</tr>
</tbody>
</table>

*P value is for the trend using 42 weeks as the referent.
ICU = intensive care unit.
Adapted from Alexander, 2000a.

Postterm Pregnancy
PATHOPHYSIOLOGY
Postmaturity syndrome

- wrinkled, patchy, peeling skin: prominent in palms and soles (2° to the loss of protective effect of vernix caseosa)
- a long, thin body suggesting wasting
- advanced maturity: infant is open-eyed, unusually alert, and appears old and worried.
- nails are typically long
- severe growth restriction may be present.

Figure 43-4 Postmaturity syndrome. Infant delivered at 43 weeks’ gestation with thick, viscous meconium coating the desquamating skin. Note the long, thin appearance and wrinkling of the hands.

Placental dysfunction

- Placental senescence or placental insufficiency
- Placental apoptosis—is significantly increased at 41 to 42 completed weeks compared with that at 36 to 39 weeks
- Proapoptotic genes such as kisspeptin were shown to be upregulated in postterm placenta
- Decreased fetal oxygenation due to placental aging

Fetal Distress and Oligohydramnios

- Decreased amniotic fluid volume during postterm
  - meconium release into an already reduced amnionic fluid volume
    - thick, viscous meconium that may cause meconium aspiration syndrome
  - Cord compression
  - Fetal distress

Fetal Growth Disorders

- Increased incidence of fetal growth restriction
- Stillbirths were more common among growth-restricted infants who were delivered after 42 weeks.
- May also manifest as fetal macrosomia → increased incidence of CS

Medical or Obstetrical Complications

- In the event of a medical or other obstetrical complication, it is generally not recommended that a pregnancy be allowed to continue past 42 weeks.
- *earlier* delivery is indicated.
- Common examples include gestational hypertensive disorders, prior cesarean delivery, and diabetes.

Management
2 options:

1. labor induction: more popular option
2. expectant management with fetal surveillance
1. Unfavorable Cervix

- women in whom there was no cervical dilatation had a twofold increased cesarean delivery rate for “dystocia.”

- cervical length ≤ 3 cm measured with transvaginal sonography was predictive of successful induction.

Recall: What is BISHOP score?

- A quantifiable method used to predict labor induction outcomes
- A Bishop score of 9 conveys a high likelihood for a successful induction.
- A Bishop score of 4 or less identifies an unfavorable cervix and may be an indication for cervical ripening.

### TABLE 26-1. Some Commonly Used Regimens for Preinduction Cervical Ripening and/or Labor Induction

<table>
<thead>
<tr>
<th>Techniques</th>
<th>Agent</th>
<th>Route/Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmacological</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostaglandin E₂</td>
<td>Dinoprostone gel, 0.5 mg (Prepidil)</td>
<td>Cervical 0.5 mg; repeat in 6 hr; permit 3 doses total</td>
<td>1. Shorter I-D times with oxytocin infusion than oxytocin alone</td>
</tr>
<tr>
<td></td>
<td>Dinoprostone insert, 10 mg (Cervidil)</td>
<td>Posterior fornix, 10 mg</td>
<td>1. Insert has shorter I-D times than gel</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>2. 6–12 hr interval from last insert to oxytocin infusion</td>
</tr>
<tr>
<td>Prostaglandin E₃²</td>
<td>Misoprostol tablet, 100 or 200 µg (Cytotec)²</td>
<td>Vaginal, 25 µg; repeat 3–6 hr prn</td>
<td>1. Contractions within 30–60 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral, 50–100 µg; repeat 3–6 hr prn</td>
<td>2. Comparable success with oxytocin for ruptured membranes at term and/or favorable cervix</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Tachysystole common with vaginal doses &gt; 25 µg</td>
</tr>
<tr>
<td><strong>Mechanical</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Transcervical 36F</td>
<td>Foley catheter</td>
<td>30-mL balloon</td>
<td>1. Improves Bishop scores rapidly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. 80-mL balloon more effective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Combined with oxytocin infusion is superior to PGE₁ vaginally</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Results improved with EASI with possible decreased infection rate</td>
</tr>
<tr>
<td>Hygrosopic dilators</td>
<td>Laminaria, magnesium sulfate</td>
<td></td>
<td>1. Rapidly improves Bishop score</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. May not shorten I-D times with oxytocin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Uncomfortable, requires speculum and placement on an examination table</td>
</tr>
</tbody>
</table>

*Off-label use.

²Tablets must be divided for 25- and 50-µg dose, but drug is evenly dispersed.

EASI = extraamnionic saline infusion at 30–40 mL/hr; I-D = induction-to-delivery.
Cervical Ripening

- Sweeping or stripping of the membranes can induce labor and thereby prevent postterm pregnancy.
- Fingers separate the chorionic membrane from the decidua of the lower uterine segment.
- Membrane stripping at 38 to 40 weeks decreased the frequency of postterm pregnancy.
- Drawbacks of membrane stripping included pain, vaginal bleeding, and irregular contractions without labor.

2. **Station of Vertex**

- Shin and colleagues (2004) studied 484 nulliparas who underwent induction after 41 weeks:
  - cesarean rates were directly related to station:
    - 6%: if the vertex before induction was at −1 station
    - 20%: if vertex was station −2
    - 43%: if vertex was station −3
    - 77%: if vertex was station −4.

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Expectant management with fetal surveillance

- Evaluation includes:
  1. counting fetal movements each day
  2. nonstress testing (NST) three times weekly
  3. amnionic fluid volume assessment two to three times weekly with pockets < 3 cm considered abnormal.

Postterm Pregnancy

Management of Postterm Pregnancy

Completed 41 Weeks
No other complications

Some choose to initiate fetal surveillance

Completed 42 Weeks

No complications
Fetal surveillance\textsuperscript{a}
Amnionic fluid volume assessment\textsuperscript{a}

Complications evidence for:
(1) Fetal compromise
(2) Oligohydramnios

Labor induction\textsuperscript{b}
(Preferable with favorable cervix)

Labor induction\textsuperscript{b}

\textsuperscript{a} Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, Casey BM, Sheffield JS (eds). William's Obstetrics 24\textsuperscript{th} edition; 2014; chapter 43 Postterm Pregnancy
Intrapartum management

- Labor is a particularly dangerous time for the postterm fetus.
- Fetal heart rate and uterine contractions should be monitored electronically for tracings consistent with fetal compromise.
- Amniotomy is controversial:
  - Further reduction in fluid volume can enhance the possibility of cord compression.
  - Amniotomy aids identification of thick meconium, which may be dangerous to the fetus if aspirated.

Intrapartum management

- Identification of thick meconium in the amniotic fluid is worrisome
- Aspiration of thick meconium may cause severe pulmonary dysfunction and neonatal death
- Amniinfusion during labor has been proposed as a way of diluting meconium to decrease the incidence of aspiration syndrome
- If the woman is remote from delivery, strong consideration should be given to prompt cesarean delivery, especially when cephalopelvic disproportion is suspected or either hypotonic or hypertonic dysfunctional labor is evident.

Thank you!
youtube channel: Ina Irabon
www.wordpress.com: Doc Ina OB Gyne