Effect of fetal gender on induction of labor failure rates

Rinat Gabbay-Benziv, Eran Ashwal, Liran Hiersch, Amir Aviram, Arnon Wiznitzer, Eran Hadar
Helen Schneider Hospital for Women, Rabin Medical Center; Petach-Tikva, Israel

INTRODUCTION:
To evaluate gender effect on induction of labor (IOL) failure rates stratified by indication to delivery.

METHODS:
Retrospective cohort analysis of singleton pregnancies 34-42 weeks undergoing cervical ripening using controlled-release PGE2 vaginal insert. IOL Indications were divided to:
(1) maternal;
(2) hypertension disorders;
(3) premature rupture of membrane or
(4) fetal (growth abnormalities, postdate, oligohydramnios, etc).
IOL failure was defined as: Bishop-score ≤7 24 hours after PGE2; cesarean delivery due to failed induction; fetal distress followed by PGE2 removal and cesarean delivery. IOL failure rate was stratified by neonatal gender and indication to induction. Logistic regression analysis was utilized to control outcomes to potential confounders.

Study cohort characteristics stratified by neonatal gender

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Male gender</th>
<th>Female gender</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age, years</td>
<td>N=521</td>
<td>N=541</td>
<td>0.432</td>
</tr>
<tr>
<td>BMI, Kg/m²</td>
<td>24.3(14.4-51.2)</td>
<td>24.2(16.6-43.3)</td>
<td>0.446</td>
</tr>
<tr>
<td>Nulliparity</td>
<td>269(51.6)</td>
<td>268(49.5)</td>
<td>0.500</td>
</tr>
</tbody>
</table>

Indication to induction:
(1) Maternal indication
(2) Hypertensive disorders
(3) PROM
(4) Fetal indication
(5) Oxytocin use

IOL failure:
Mode of delivery - cesarean section
General anesthesia
Gestational age at delivery, weeks
Birth weight, grams

RESULTS:
Overall, 1,062 pregnancies were included - 521 (49%) had male fetuses. IOL indications did not differ by gender. IOL failure rate was 20.1% (213/1,062) – 76% for unfavorable Bishop-score after PGE2 removal;

5.2% for failed induction and 18.8% for fetal distress while on PGE2. Overall, 14.3% delivered by cesarean section. There were no differences in IOL failure as a group or by indications to induction stratified by fetal gender (21.7% vs. 18.5%, male vs. females, p<0.05).

CONCLUSIONS:
IOL failure rate is not affected by fetal gender regardless of indication to induction.