### ABSTRACT

Introduction

Induction of labor in women with prior cesarean is a safe alternative to repeat cesarean. Current evidence has not determined the best method for women who require cervical ripening. We sought to determine whether the use of the Foley balloon is comparable in safety and efficacy to oxytocin.

Methods

We conducted a retrospective chart review of all women with prior cesarean undergoing induction between 1994 and 2015. We compared the vaginal delivery rate, maternal adverse event composite, and neonatal adverse event composite. The maternal composite included hemorrhage, infection, uterine rupture, and maternal death. The neonatal composite included 5m APGAR < 7, umbilical artery pH < 7, NICU admission, and neonatal death. Confounding variables, including Bishop score, previous vaginal delivery, gestational age, and presence of PROM, were identified by logistic regression.

Results

66 women were induced by Foley balloon and 405 by oxytocin. The vaginal delivery rate was significantly higher for Foley balloon (42%) compared to oxytocin (27%). Maternal adverse events were similar between the two groups. Neonatal adverse events were also comparable (15% Foley vs 11% oxytocin).

Conclusions

With careful patient selection, Foley balloon is an acceptable induction method in women with prior cesarean.

### RESULTS

#### DELIVERY OUTCOMES

<table>
<thead>
<tr>
<th></th>
<th>Oxytocin n=405</th>
<th>Foley Balloon n=66</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Length (minutes, median [range])</td>
<td>672 (30, 2584)</td>
<td>1009 (273, 2160)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Vaginal Delivery</td>
<td>304 (75.1%)</td>
<td>36 (54.6%)</td>
<td>0.001</td>
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<tr>
<td>Cesarean Section</td>
<td>84 (20.1%)</td>
<td>28 (42.4%)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

#### ADVERSE EVENTS

<table>
<thead>
<tr>
<th></th>
<th>Oxytocin n=405</th>
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</thead>
<tbody>
<tr>
<td>Maternal Composite</td>
<td>62 (15.5%)</td>
<td>16 (24.2%)</td>
<td>0.07</td>
</tr>
<tr>
<td>Neonatal Composite</td>
<td>40 (9.9%)</td>
<td>7 (10.6%)</td>
<td>0.86</td>
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</tbody>
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#### OBJECTIVE

To compare for TOLAC candidates undergoing induction of labor with Foley balloon vs oxytocin:

- Rate of maternal hemorrhage, chorioamnionitis, and uterine rupture
- Rate of repeat cesarean section
- Rate of neonatal death and asphyxia

#### STUDY DESIGN

- Retrospective chart review at two institutions of women with a history of cesarean section undergoing induction of labor
  - Inclusion criteria: all women with history of cesarean section undergoing induction at Froedtert and CSM between 1994 and 2015
  - Exclusion criteria: women delivering a fetus less than 24 weeks, stillbirth, and fetuses with lethal anomalies
  - Chi-square and Fisher's Exact tests were used to compare categorical variables
  - Mann-Whitney test was used to compare continuous variables
  - Tree analysis was performed to estimate the impact of demographic information on tested outcomes
  - Significant outcomes were defined as p < 0.05

#### RESULTS

**Tree Analysis of Maternal Outcomes**

**Tree Analysis of Neonatal Outcomes**

#### CONCLUSION

- Successful vaginal delivery rate (55%) is similar to other studies
- Maternal and neonatal adverse events are not increased when Foley balloon is used for cervical ripening
- Foley balloon is an acceptable method for cervical ripening in women with a history of cesarean section