QUARISMA Montfort: AN INITIATIVE TO REDUCE CESAREAN RATES

Cesarean Section Rates

- Increase in maternal and neonatal morbidity
- Cost
- WHO recommendation of 10-15% cesarean rate (2015)
- Provincial indicators pushing hospitals to lower rates
- Concern for all of us regardless of size of hospital

Cesarean Section Rates

- Concern for all of us regardless of size of hospital
- Frustration of finding acceptable ways to modify rates as an individual practitioner or as an institution
- Capricious nature of cesarean rates:
  - 16.9% decrease in cesarean rates on Halloween
  - 12.1% increase in cesarean rates on Valentine’s Day
  - Statistically significant difference

The QUARISMA Trial

- Multifaceted approach
- Audits of indications for cesarean deliveries in 32 hospitals
- Feedback to health professionals
- Implementation of best practices
- Small reduction in cesarean rates especially among low-risk women
- Without effects on maternal or neonatal morbidity

QUARISMA and Montfort

- Trial presented by one of our francophone residents from uOttawa at departmental rounds
- Program applying principles and tools of QUARISMA developed with AMPRO for safe reduction of cesarean rates
- CFN Montfort leadership decided to implement the trial program at Montfort
- First (only!) hospital outside Quebec
Montfort: A Time and Place for QUARISMA

- Only Francophone Academic hospital in Ontario
- QUARISMA program and support personnel language transferable
- Exponential increase in number of deliveries in short time
- Post-graduate academic programs (OB and Med Fam) expanding
- Longstanding participants in AMPRO (MORE ob)
- Development of Code 333
- BOFIN and provincial indicators

Our Audit Team

- 6 nurses
- 1 midwife
- 1 family physician
- 3 obstetricians
- Full day, onsite training, fall 2016
- Mentor during meetings

5 Steps of Audit Cycle

1. **Identification** of who had cesarean during the 1st month of the cycle
2. **Data collection** (standardized form) regarding labour and delivery
3. **Assessment of relevance** (pertinence and evitability) of indications for cesarean according to algorithms
4. **Recommendations** for best practices
5. **Feedback** to the department

Audit Steps: Identifying Charts and Collecting Data

- Nursing team identifies charts before the meeting
- Confidential process
- 30 first eligible cesareans
- Preliminary retrieval of information for audit before meeting
- Tracings available and reviewed at the audit
- Charts reviewed as algorithms applied at meeting by full team

Audit Steps: Assessment of Relevance

- Only possible once patient information form is complete and the indication(s) for cesarean established
- Algorithms are reviewed
- **Pertinence and evitability are assessed**
- Hardest part!

Pertinence

Was the indication for the cesarean

- understandable?
- relevant?
- Would a colleague have come to the same decision?
Evitability

Was the indication for the cesarean:
• Avoidable?
• Preventable?
• Was there somewhere along the algorithm where following another option would have led to a vaginal birth?

Algorithms

Fetal surveillance
Management of post-term pregnancy
Management of labour: dystocia in stage 1
Management of labour: dystocia in stage 2
Management of labour: twin pregnancy
Induction of labour
Instrumental delivery
Trial of labour after previous cesarean (VBAC)
Breech presentation

Audit Steps: Formulation of Recommendations

• Arise from roadblocks along algorithms
• Similar to others made during original trial
• We were already doing many things other hospitals recommended

Total Cesareans Audited by Indication

<table>
<thead>
<tr>
<th>Indication</th>
<th>No. cesareans</th>
<th>No. avoidable cesareans</th>
<th>Avoidability (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous cesarean</td>
<td>36</td>
<td>20</td>
<td>56</td>
</tr>
<tr>
<td>Dystocia</td>
<td>21</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Breech</td>
<td>18</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td>Fetal distress</td>
<td>25</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Multiple</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>39</td>
<td>32</td>
</tr>
</tbody>
</table>

Cesareans Audited by Type of Cesarean

<table>
<thead>
<tr>
<th>Type of Cesarean</th>
<th>No. cesareans audited</th>
<th>No. cesareans avoidable</th>
<th>Avoidability (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesareans in labour</td>
<td>61</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Elective cesareans</td>
<td>62</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>39</td>
<td>32</td>
</tr>
</tbody>
</table>
Evitability of Cesareans by Stage of Labour

- 50% of cesareans analyzed were elective
- 72% of evitable elective cesareans were actually done before labour

Reason for Evitability for Cesareans in Labour

- Refused TOL after prior cesarean
- Breech
- Did not fit algorithms
- Failed analgesia
- Atypical/abnormal fetal heart
- Failed induction
- Failure to progress

Recommendations

Hydration
- Target intake 250cc/hr
- Document intake

Partogram (WHO):
- Paper partogram incorporated into our charts
- Complete after 4 cm with regular contractions

Recommendations

Mobilization
- Purchase of peanut balls

Induction/Augmentation
- Consideration of high dose oxytocin for nulliparous patients

Identification of Presentation
- Role for staff to confirm presentation and try rotation
- Suggestion of role for very early rotation (5 cm) less well accepted
- Role for formal teaching through AMPRO

Recommendations

VBAC
- Encourage use of scoring system or APP
- Better documentation of discussion for TOL vs repeat
- Later elective times not endorsed

Breech
- Better documentation of discussion for TOL vs elective cesarean

Maternal obesity
- Standard QUARISMA demographics but not calculations
- Incorporate new AMPRO guidelines on obesity

Conclusions

- New approach for us: neither a training exercise (AMPRO) nor a context of critical incident review (perinatology committee)
- Algorithm based
- Free from situational influences (busy unit, failed equipment)
- Encouragement that we are doing many things well
- Practical and feasible recommendations pertinent to our hospital environment
Recommendations

Fetal surveillance:
- No central monitoring already our standard
- Documentation in standardized admission orders of reason for continuous EFM if being used
- Reminder to use nomenclature: normal, atypical, abnormal
- Harder change because of house staff involvement
- Recurrent issues with wireless monitors

Conclusions

- Dissemination of results very important
- Departmental email summaries from department chief
- Review of recommendations at departmental meeting
- Nursing educator implementation of teaching strategies on ward
- Reminder notes on patient room white boards

Conclusions

- Very labour intensive
- VBAC, breeches maternal obesity remain challenges
- Even if no change in cesarean rate, an excellent process for maintaining and prioritizing best practices for the management of labour and delivery

Montfort QUARISMA Team

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