The Launch of Patient-Controlled Analgesia with Remifentanil during Labour in a Private Hospital in Switzerland

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Salemsspital Bern
Hirslanden Group Switzerland
983 Births in 2009
34% Cesarean section
23% Epidurals
70% public health insurance
Remifentanil PCA for Labour at Salem Hospital

- Audit project for routine use of Remifentanil PCA in labour
- Website with results
- Extension of the project in all hirslanden hospitals and other hospitals in Switzerland
Pilot Project

Regime

- Remifentanil 20 mcg/ml
- Bolus 20-40 mcg (1-2 ml)
- Lockout interval 2 min
- Short application time (1ml/6sec)
- Specially programmed infusion pump (B.Braun)

**NO continuous infusion of Remifentanil**
Pilot Project

Requirements

- iv access (special setup)
- Continuous SpO\textsubscript{2} measurements
- Supplemental Oxygen if SpO\textsubscript{2} < 92%

**NO** additional opioids
Pilot Project

Requirements

- Presence of Midwife
- Questionnaire for every application
Audit since 4/2009

- Introduction as a standard method of pain control in labour
- Teaching of all involved specialities
- Extended questionnaire
- Data recording
- Regular analysis of data
Website

- SOP (standard operating procedure)
- Online questionnaire
- Regular statistical analysis of data
- Authors available for feedback & questions

www.soscisurvey.de/ultiva
Results 4/09-2/10

Schmerztherapie zur Geburt (n=773)

- 52% Geburten ohne PCA oder PDA
- 23% PCA
- 21% Konversion
- 4% PDA
Results 4/09-2/10

Pain during labour in VAS

Mean pain reduction (VAS) of 3.5
Nebenwirkungen (Anteil Patientinnen in %)

- Sauerstoff nötig: 10.0%
- Nausea / Erbrechen: 20.6%
- Sedation: 20.0%
- Juckreiz: 2.5%

Results 4/09-2/10
Results 04/09 - 02/10

APGAR < 7 after 1 minute

with PCA : 7,5 %

without PCA : 9,5 %
Results 4/09-2/10

pH arterial < 7,15

Neonates with PCA : 4%
Neonates without PCA : 4%

Control pH after 1 hour:
normal in all neonates with PCA
Results 4/09-2/10

Patients with planned spontaneous delivery (n=773)

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>PCA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>73.0%</td>
<td>66.5%</td>
</tr>
<tr>
<td>Cesarean</td>
<td>13.7%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Instrumental</td>
<td>8.5%</td>
<td>11.5%</td>
</tr>
</tbody>
</table>
Results 4/09-2/10

Zufriedenheit der Mutter mit PCA

- sehr zufrieden: 65.6%
- zufrieden: 28.7%
- mässig zufrieden: 3.8%
- unentschieden: 1.3%
- gar nicht zufrieden: 0.6%

Zufriedenheit der Hebamme mit PCA

- sehr zufrieden: 64.5%
- zufrieden: 31.0%
- mässig zufrieden: 3.2%
- unentschieden: 1.3%
- gar nicht zufrieden: 0.0%
Reasons to continue

- Safe for mother and child
- Less side effects than other opioids
- No influence on mobility and neurological function
- No neurological complications
- Complete self control of the mother during labour
- The midwifes and the obstetricians would never give it up any more
Future projects in our maternity ward

- Similar questionnaire for epidural deliveries
- Comparison EDA vs. PCA
Future of the PCA

- Standardized application in other maternity departments
- Extended statistical analysis of all participating hospitals
- Regular audits
- Quality management (feedback loop)
Merci
Results 04/09 - 02/10

APGAR <7 with PCA

<table>
<thead>
<tr>
<th></th>
<th>1 min</th>
<th>5 min</th>
<th>10 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>n Patients</td>
<td>12 (7.5%)</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Apgar <7  1 min overall without PCA  9.5%
Pain & Pleasure

SATISFYING BIRTH EXPERIENCE