Opioid Prescribing Habits and Patient Post-Operative Pain Requirements after Common Pediatric Urology Procedures

Are Pediatric Urologists Contributing to the Opioid Epidemic?

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Hypothesis and Study Aims

• Hypothesis
  – Opioids are overprescribed following common pediatric urology procedures

• Study Aims
  – Following common pediatric urology procedures:
    • Determine how many doses of opioids are required
    • Determine actual pain levels experienced by children
    • Predict factors leading to increased postoperative pain and an increased opioid requirement
    • Determine if there are children who did not require opioids
Study Methods

- Parents/patients recruited and consented at time of surgery
- Data recorded
  - Demographic information
  - Surgery performed
  - Number of doses of pain medication prescribed
    - Acetaminophen
    - Ibuprofen
    - Oxycodone
- Number of doses of pain medication not limited
- Pain medication prescribed at standard dosing and time intervals
  - Acetaminophen – 10 mg/kg every 6 hours as needed
  - Ibuprofen – 10 mg/kg every 4 hours as needed
  - Oxycodone 0.1 mg/kg every 4 hours as needed
Study Methods

- Text message with linked survey
  - Sent each evening for postoperative days 1-7
  - Data Recorded
    - Previous 24 hours
      - Number of doses of pain medication required
      - Average pain level – Faces Pain Scale
  - Data stored in RedCap database
  - Data analysis performed using
    - Cross tab and chi-squared analysis
    - Wilcoxon testing
    - Logistic regression model
<table>
<thead>
<tr>
<th>Results</th>
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<tbody>
<tr>
<td><strong>Number of Patients</strong></td>
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<tr>
<td><strong>Average Patient Age</strong></td>
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<tr>
<td><strong>Number of Male Patients</strong></td>
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<td><strong>Number of Female Patients</strong></td>
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<td><strong>Parent Receiving the Text Message</strong></td>
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<tr>
<td><strong>Average Age of Parent Receiving the Text Message</strong></td>
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<td><strong>Insurance Type</strong></td>
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<td><strong>Type of Surgery Performed</strong></td>
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For all procedures: Pain improved significantly (p<0.01) from POD 1 to 7

Hypospadias repairs reported greatest degree of pain
Post-Operative Opioid Requirement

- For all procedures: Opioid requirement improved significantly (p<0.05) from POD 1 to 7
- Most opioid consumption occurred on POD 1
- Hypospadias repairs had greatest opioid requirement
- Multivariant analysis: No predictor leading to increased opioid requirement
Did we overprescribe?

- Yes, opioids were overprescribed
  - Circumcision: Overprescribed by 88%
  - Hydrocele/Hernia: Overprescribed by 77%
  - Orchiopexy: Overprescribed by 74%
  - Hypospadias Repair: Overprescribed by 72%
  - Other surgeries: Overprescribed by 88%
Were there patients who did not require opioids?

<table>
<thead>
<tr>
<th>Type of Surgery</th>
<th>Number of Patients not Requiring Opioid</th>
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<tbody>
<tr>
<td>Circumcision</td>
<td>19 patients (50%)</td>
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<tr>
<td>Hydrocele/Hernia</td>
<td>5 patients (29%)</td>
</tr>
<tr>
<td>Orchiopexy</td>
<td>15 patients (34%)</td>
</tr>
<tr>
<td>Hypospadias Repair</td>
<td>5 patients (17%)</td>
</tr>
<tr>
<td>Other</td>
<td>2 patients (40%)</td>
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</tbody>
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- Circumcision: Greatest likelihood of not requiring any opioids
- Multivariant analysis: No predictor for not requiring opioid
Conclusions

• Postoperative pain and opioid requirements improve over time after surgery
• Hypospadias repairs: Highest degree of pain and opioid requirement
• Opioids are overprescribed
• Some patients never required opioid
• Halting opioid use though is not warranted
• Future Work
  – Continue patient enrollment
  – Develop predictive model to improve and direct opioid prescribing