POSTOPERATIVE DAY ONE EPIDURAL ANALGESIA AND DERMATOME LEVEL IN PATIENTS RECEIVING EPIDURAL ROPIVACAINE INFUSION

Jeffrey C. Songster MD, John A. Shepler MD, Tamara Chambers MSN MHA RN, et al.

University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Introduction

Epidural Analgesia Failure
- defined by pain > 4 on VAS
- reported rate as high as 30%

Reasons for failure
- incorrect primary placement
- secondary migration of correctly placed catheters
- suboptimal dosing of local anesthetic drugs
**Introduction**

CT epidural contrast study
- 42% of epidural analgesic failures without an obvious cause had an epidural in the epidural space

Objective surrogate marker needed
- Dermatome level makes physiologic sense

Healthy Volunteers Epidural Local Anesthetic
- 0.1% ropivacaine
- Regression of dermatome level after 8 hours

**Hypothesis**

We hypothesized that postsurgical patients receiving an infusion of 0.1% ropivacaine may not have a dermatome level as previously shown in healthy volunteers, but would have successful epidural analgesia. Therefore the absence of a dermatome would be a poor predictor of successful epidural placement.

**Methods**

IRB Approval
Retrospective Review
- 100 consecutive epidural patients
- 0.1% ropivacaine 6 ml/hr starting rate
- Managed by pain service
- Dermatome Check on POD 1 and pain score evaluated
- Grouped by dermatome level 0-1, 1-4, and > 4
Methods

Exclusion Criteria
- hx of Chronic Pain baseline score greater than 5
- hx of opioid dependence
- ICU admission
- psychiatry consult for pain or severe psychiatric disease
- dermatome level not recorded

ANOVA Statistical Analysis

Results

Comparison of Study Groups by Category

Results

Resting and Dynamic Pain Scores

P<0.05
Results

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<table>
<thead>
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<tbody>
<tr>
<td>Sensitivity</td>
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Conclusion

- Dermatome blockade of > 4 levels
  - more likely to have lower pain scores and successful epidural analgesia
- Positive dermatome level
  - most likely cause of epidural failure is suboptimal dosing
- Negative dermatome level
  - incorrect position of epidural catheter vs. suboptimal dosing

References
