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

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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

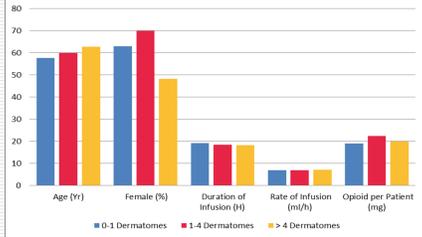
- hx of Chronic Pain baseline score greater than 5
- hx of opioid dependence
- ICU admission
- psychiatry consult for pain or severe psychiatric disease
- dermatome level not recorded

ANOVA Statistical Analysis

Results



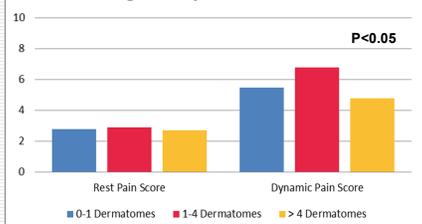
Comparison of Study Groups by Category



Results



Resting and Dynamic Pain Scores



Results



Sensitivity	65.6
Specificity	40.0
PPV	81.6
NPV	22.2

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



1. Hermanides, J. et al. (2012) British Journal of Anesthesia 109: 144-54
2. Motamed, C. et al. (2006) Anesthesia and Analgesia 103: 1026-32
3. Zaric, D. et al. (1996) Regional Anesthesia 21: 14-25

