Comparison of Postoperative Pain Control Methods after Bony Surgery in Foot and Ankle

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Chan Kang

My disclosure is in the Final AOFAS Mobile App. I have no potential conflicts with this presentation.
Introduction

Postoperative pain control
- Important role in relationship between surgeon and patient
- Severe pain after bony surgery in foot and ankle

To evaluate
- Effectiveness of additional nerve blockade for postoperative pain control
Material and method

🌟 Inclusion criteria of patients

- Prospective comparative study, Between Jan. and Sep. 2013
- 120 patients (Bony Surgery under Nerve Block)
  - Group A (n=40) : Fentanyl patch, 25mg
  - Group B (n=40) : Additional Sciatic nerve block at 1\textsuperscript{st} Op. night (0.2\% Ropivacaine 30ml)
  - Group C (n=40) : Pain killer IM, Tara\textsuperscript{R}

🌟 Postoperative VAS score : at Postop. 6, 12, 18, 24, 48hr

🌟 Exclusion Criteria

- Incomplete VAS scoring for POD 48hrs
- Psychotic history
- Chronic liver and/or kidney disease
- Severe postop pain even though pain control
Material and methods

Sciatic nerve block method

- 0.2% Ropivacaine 30ml
  - 0.75% Ropivacaine 10ml + NSS 27.5ml
- PM 8 ~10 O’clock
  - Painless until 11.5hrs d/t preop NB
  - For 1st OP night pain control

<Sciatic nerve autonomous zone>
## Material and methods

### Preop demograph

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Age at treatment, (range)</td>
<td>52.85 (19–62)</td>
<td>48.93 (21–67)</td>
<td>47.68 (20–81)</td>
</tr>
<tr>
<td>Gender, Men, number</td>
<td>24</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Fracture ; 27 Deformity correction ; 6 Others ; 7</td>
<td>Fracture ; 31 Deformity correction ; 4 Others ; 5</td>
<td>Fracture ; 29 Deformity correction ; 8 Others ; 3</td>
</tr>
</tbody>
</table>
Results

Postoperative VAS score

P < 0.05
Results

Postop side effect

- Group A; nausea & vomiting
  - N=5
- Group B & C; non-specific

IM pain killer

- Group C
  - Average 4.3 during POD 48hrs
  - 2.9 from POD 12hrs to next day AM 6:00
Discussion

Postop pain control

- Bony surgery
  - Extremely pain
  - 1\textsuperscript{st} OP night pain
- Effectiveness Vs. Side effect
- Nerve block
  - Best way to postop pain control

Numerous methods for pain control

- Opioids
  - Nausea & vomiting
  - Pulmonary failure
- Nerve blockade
  - Conversion to general anesthesia
  - Nerve damage
  - Hypersensitivity ; anaphylactic shock
  - Dose dependent ; cardiac, CNS toxicity
- Pain killers

Kehlet H. Lippincott, 1998
Discussion

USG guided nerve block
- Learning curve: 10~30 cases
- Visualized nerve & surroundings
  - Nerve damage rate↓
  - Block agents↓
  - Successfulness of nerve block↑

Limitations of this study
- Lack of randomization
  - Age, Male; Female, Diagnosis
- Short learning curve
  - Additional Sciatic Nerve block at 1st Op. night by several residents
- VAS score
Conclusion

🌟 Postop pain control by Additional Sciatic nerve block

- Effectiveness > Side effect
  - Especially 1st OP night

- Surgeon-patient relationship

- Multimodal approach
Thanks for your attention!

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