Does an acute pain management protocol improve pain treatment in patients with acute musculoskeletal pain?

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EuSEM 2014
# Conflict of Interest Disclosure

**Speaker:** Jorien Pierik

**Title:** Does an acute pain management protocol improve pain treatment in patients with acute musculoskeletal pain?

<table>
<thead>
<tr>
<th>Conflict of Interest</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Member of a scientific committee</td>
<td>✗ YES</td>
<td>✗ NO</td>
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<td>Speaking or writing in exchange for remuneration</td>
<td>✗ YES</td>
<td>✗ NO</td>
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<td>Travel expenses and/or registration to congresses or other events covered</td>
<td>✗ YES</td>
<td>✗ NO</td>
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<tr>
<td>Leader of research of clinical study</td>
<td>✗ YES</td>
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Introduction (I)

- While acute musculoskeletal pain is a frequent complaint in the ED, its management is often neglected.

- The PROTACT study confirms oligoanalgesia to be a serious problem in patients with musculoskeletal extremity injury. Even though sixty percent of the patients used analgesics somewhere in the chain of emergency care, more than two-third of the patients still suffered moderate to very severe pain at discharge from the ED. (e-poster #518)
Introduction (II)

➢ The PROTACT study confirms that patients who suffered severe pain at ED discharge have a 1.89 times higher risk to develop chronic pain after musculoskeletal injury. (Wednesday 11.45 - Research Potpourri: Updates - Lightning Session #514)

➢ Studies have shown that pain treatment may be improved with the implementation of an acute pain management protocol.
Aim

To evaluate if the implementation of an acute pain management protocol improves the pain treatment in musculoskeletal patients.

Methods

Design: pre-post intervention study.
Study population: adult patients with acute pain due to musculoskeletal extremity injury.
Setting: the ED of Medisch Spectrum Twente, The Netherlands.
Data collection: -pain management data (registry)
   -self-reported pain intensity (questionnaires)
Acute pain protocol

- Based on Dutch guideline for pain management in trauma patients.
- Professionals collaborate and synchronize pain management.
- Nursing staff can initiate analgesics without consulting a physician.
- Patients with a pain score NRS ≥ 4 should be provided analgesics.

Algorithm:

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Diagram of the acute pain protocol algorithm.
Results (I)

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<td>sept ’11</td>
<td>dec ’12</td>
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Provision of analgesics

- 432 patients had a NRS\(\geq 4\); of whom 158 patients (36.6%) received analgesics.
- 128 patients had a NRS\(\geq 4\); of whom 59 patients (46.1%) received analgesics.

Difference 9.5%; 95%CI (0.0-19.1%)
# Results (II)

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## Provision of opioids

- 35 out of 504 patients (6.9%)
- 18 out of 156 patients (11.5%)

**difference 4.6%; 95%CI (-0.3-9.5%)**
Results (III)

Time to analgesics

- "Time to analgesic" = 33 min (SD= 40)
- "Time to analgesic" = 21 min (SD=29)

Difference: 12 min; 95%CI (2-21 min)
Results (IV)

Pain reduction

- Mean pain reduction: 1.00 (SD=1.77)
- Mean pain reduction: 1.36 (SD=1.96)

Difference 0.35; 95%CI (0.00-0.71)
Results (V)

Clinically relevant pain reduction (-33%)

- 101 out of 504 patients (20.1%)
- 40 out of 156 patients (25.8%)

difference 5.6%; 95%CI (-2.5 -13.8%)
Results (VI)

Moderate to severe pain at discharge

- 342 out of 504 patients (67.8%) before implementation
- 96 out of 156 patients (61.5%) after implementation

Difference 6.3%; 95%CI (-2.2 – 14.8%)
Conclusion

- The implementation of an acute pain management protocol appeared to lead to
  - increase of analgesic administration
  - shorter time to analgesics
  - higher pain relief

- Despite the improvement in pain management after implementation of the protocol, the percentage of patients with moderate to severe pain at ED discharge is still high.

- The adherence to the acute pain management protocol needs to be studied in order to further optimize pain management in the ED.

Thank you for your attention!

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