FEMORAL NERVE BLOCK IN A REPRESENTATIVE SAMPLE OF ELDERLY PEOPLE WITH HIP FRACTURE

A randomised controlled trial
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CONCLUSION
Patients with hip fracture, including those with dementia, who received femoral nerve block (FNB) had lower pain scores and required less opioids before surgery compared with those receiving conventional pain management. FNB seems to be a feasible pain treatment for elderly people, including those with dementia.

RESULTS
The study sample comprised 266 patients admitted consecutively to the orthopaedic ward. The mean age was 84 (± 6.9) years, 64% were women, 44% lived in residential care facilities, and 45% were diagnosed with dementia. Patients receiving FNB had significantly lower self-rated pain scores from baseline compared to all timepoints than did controls (Table 1). Self- and proxy rated VAS pain scores decreased significantly in these patients from baseline to 12 h compared with controls (Table 2a & b). Patients receiving FNB required significantly less opioids than controls, overall (2.3 ± 4.0 vs. 5.8 ± 5.2 mg, p < 0.001) and in the subgroup with dementia (2.1 ± 3.3 vs. 5.8 ± 5.0 mg, p < 0.001).

Table 1
Difference in self rated VAS, from baseline to time-point 2, 6- and 12 hrs with different patients in each time-point in the intervention (femoral nerve block) and control group (opioids if required).

<table>
<thead>
<tr>
<th>Self rated</th>
<th>a. Baseline 2 hrs</th>
<th>b. Baseline-6 hrs</th>
<th>c. Baseline-12 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median (Q1-Q3)</td>
<td>Median (Q1-Q3)</td>
<td>Median (Q1-Q3)</td>
</tr>
<tr>
<td>Intervention</td>
<td>-3.297 (0.001, 0.43)</td>
<td>-3.038 (0.002, 0.32)</td>
<td>-3.250 (0.001, 0.38)</td>
</tr>
<tr>
<td>Control</td>
<td>0.000 (1.000)</td>
<td>-1.425 (0.154)</td>
<td>-0.375 (0.707)</td>
</tr>
</tbody>
</table>

Patients with dementia included in baseline-2 hrs: Total 34 (28%), Intervention 15, and Control 19
Patients with dementia included in baseline-6 hrs: Total 24 (26%), Intervention 9, and Control 15
Patients with dementia included in baseline-12 hrs: Total 20 (26%), Intervention 8, and Control 12
Effect size was calculated when p-value < 0.05: a = between baseline-2 hrs; b = between baseline-6 hrs; c = between baseline-12 hrs.

*small effect, .3=medium effect, .5=large effect.

Table 2b
Proxy rated VAS over time following the same participants from baseline to 12 hrs in the intervention (femoral nerve block) and control group (opioids if required).

<table>
<thead>
<tr>
<th>Proxy</th>
<th>VAS baseline</th>
<th>VAS 2 hrs</th>
<th>VAS 6 hrs</th>
<th>VAS 12 hrs</th>
<th>Friedman's x² (p-value)</th>
<th>Bonferroni post hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention (n=38)</td>
<td>20 (3.25)</td>
<td>10 (3)</td>
<td>10 (3)</td>
<td>10 (3)</td>
<td>13.787 (0.002)</td>
<td>e*</td>
</tr>
<tr>
<td>Control (n=36)</td>
<td>20 (3.25)</td>
<td>15 (3)</td>
<td>15 (3)</td>
<td>15 (3)</td>
<td>6.663 (0.066)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Patients with dementia included in Friedman analysis: Total 22 (64%), Intervention 10 (27%), Control 12 (33%)
Effect size was calculated when p-value < 0.017: a = between baseline-2 hrs; b = between baseline-6 hrs; c = between baseline-12 hrs.

*small effect, .3=medium effect, .5=large effect.

The number of elderly people with hip fracture and dementia is increasing, and many of these patients suffer from pain. Opioids are difficult to adjust and side effects are common, especially with increased age and among patients with dementia. Preoperative FNB is an alternative pain treatment. The aim of this RCT was to investigate whether preoperative FNB reduced acute pain and opioid use after hip fracture among elderly patients, including those with dementia. The study involved patients aged ≥ 70 years with hip fracture (trochanteric and cervical), including those with dementia. FNB (n=129) was compared with conventional pain management, with opioid use if required (n=137). The primary outcome was preoperative pain, measured at five timepoints using a visual analogue scale (VAS). Preoperative opioid consumption was also registered.

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