Comparative Efficacy of Pre-Operative Quadratus Lumborum Blocks in Hip Arthroscopy

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Introduction

- Postoperative pain remains a common complication following hip arthroscopy
- Opioid use and abuse has become a public health crisis
  - Need improved non-opioid forms of postoperative pain control
- The sensory innervation of the hip joint is complex, making regional anesthesia difficult
Introduction

- Regional anesthesia frequently used as a pain control adjunct in hip arthroscopy with conflicting results
- Quadratus Lumborum (QL) blocks have been successfully used in hip fractures and arthroplasty
- Limited data on QL blocks used in hip arthroscopy
Introduction

- QL2 block injected into fascial plane posterior to QL muscle
- Anesthetic bathes the paravertebral space affecting sensory nerves as broadly as T6-L3
- QL2 block is primarily sensory-only blockade
• To evaluate the effect of a single shot QL block versus traditional femoral nerve or fascia iliaca (F/FI) blocks on intraoperative and early postoperative pain and opioid consumption
Methods

- 40 hip arthroscopies performed by a single surgeon retrospectively reviewed
  - 21 preoperative single-shot QL blocks
  - 19 preoperative single-shot F/FI blocks

- Data analyzed to include:
  - Subjective pain scores (DVPRS)*
  - Time to discharge
  - Intraoperative and postoperative opioid requirements
  - Early postoperative complications

*Defense and Veterans Pain rating scale
Results

<table>
<thead>
<tr>
<th></th>
<th>Femoral Nerve/Fi Block</th>
<th>Quadratus Lumborum Block</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average patient age (y)</td>
<td>35.79</td>
<td>32.67</td>
<td>0.41</td>
</tr>
<tr>
<td>Average BMI</td>
<td>27.85</td>
<td>27.07</td>
<td>0.68</td>
</tr>
<tr>
<td>Average Case Length (min)</td>
<td>130.63</td>
<td>120.24</td>
<td>0.28</td>
</tr>
<tr>
<td>Procedures involving bone (%)</td>
<td>94.74</td>
<td>85.71</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Table 1

No difference in patient demographics or procedure details
**Results**

<table>
<thead>
<tr>
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<th>Quadratus Lumborum Block</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Intraoperative opioids (OME)</td>
<td>54.9</td>
<td>46.2</td>
<td>0.17</td>
</tr>
<tr>
<td>PACU opioids (OME)</td>
<td>28.7</td>
<td>18.1</td>
<td>0.06</td>
</tr>
<tr>
<td>Total opioids (OME)</td>
<td>84.4</td>
<td>64.3</td>
<td>0.02</td>
</tr>
<tr>
<td>Time in PACU (min)</td>
<td>147</td>
<td>117</td>
<td>0.01</td>
</tr>
<tr>
<td>DVPRS score at discharge</td>
<td>5.38</td>
<td>3.05</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Table 2

QL block patients had shorter time to discharge from the recovery area
Results

QL block patients required significantly fewer total opioids

Figure 1

Perioperative Opioid Consumption

*p<0.05

[Graph showing oral morphine equivalents (OME) for total, intraoperative, and postoperative periods for Quadratus Lumborum (QL) block and Femoral/Fascia Iliacus block, with QL block patients requiring significantly fewer opioids.]
Results

QL block patients had improved pain scores immediately postoperatively and at discharge
Results

- No block-related complications in the QL block group
- One patient sustained a fall post-operative day zero in the femoral nerve block group
Conclusion

- Patients receiving QL block for hip arthroscopy demonstrated lower total opioid consumption, improved subjective pain scores, and shorter time to discharge than patients receiving femoral nerve or fascia iliaca blocks.
The QL block has shown promise in reducing postoperative pain following hip arthroscopy.

This can lead to:

- Lower opioid use
- Improved patient satisfaction
- Earlier mobilization
- Fewer block-related complications
1. Examining the Role of Perioperative Nerve Blocks in Hip Arthroscopy: A Systematic Review. 

2. McCrum CL, Ben-David B, Shin JJ, Wright VJ. Quadratus lumborum block provides improved immediate postoperative analgesia and decreased opioid use compared with a multimodal pain regimen following hip arthroscopy. 


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