Lignocaine or bupivacaine for digital ring block

Report by Andrea Gorzack, Clinical Fellow
Search checked by Mohammed Al Zarrad, Research Fellow

Clinical scenario
A 40 year old female sustains a 2 cm laceration to her left index finger. There was no tendon/neurovascular damage. Would lignocaine or bupivacaine ring block provide better analgesia for repair by suturing.

Three part question
In [patients with conditions affecting the finger that require minor operative intervention] is [lignocaine ring block better than bupivacaine ring block] in terms of [speed of onset of anaesthesia, reducing pain during procedure, and duration of analgesia].

Search strategy
Medline 1966 to 4/98 using the OVID interface. ([(exp nerve block OR ring block ti,ab,sh) AND [exp finger injuries OR exp fingers OR digital injury ti,ab,sh]] AND {{exp lidocaine OR lignocaine ti,ab,sh} AND [exp bupivacaine OR marcain ti,ab,sh]})

Search outcome
Four papers found of which two were irrelevant; the remaining papers are shown in table 2.

Comment
The UK study revealed a longer time of onset and longer duration of action for bupivacaine 0.5%. There was no difference in effectiveness while the blocks were working but 25% of the lignocaine blocks had to be repeated before the procedure was completed. The US study reveals no advantage for a lignocaine/bupivacaine mixture over bupivacaine alone.

Clinical bottom line
Bupivacaine or another long acting local anaesthetic agent should be used for ring block if there is any chance that procedures may be anything other than brief.

Table 2

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reich and Quinton, 1987, UK</td>
<td>53 adult (16-70 years) requiring operative procedures on fingers Lignocaine 1% v bupivacaine 0.5%</td>
<td>PRCT</td>
<td>Mean time to complete anaesthesia 5.8 min v 11.2 min Durations of anaesthesia 59.6 min v 476 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valvano and Leffler, 1996, USA</td>
<td>19 adult volunteers (acted as their own controls) Lignocaine 1% bupivacaine 0.25% v bupivacaine 0.25% alone</td>
<td>PRCT</td>
<td>Pain score comparison between types of blocks Mean time to complete anaesthesia No difference (5 min v 3.35 min)</td>
<td>2 subjects failed to complete study Normal subjects</td>
<td></td>
</tr>
</tbody>
</table>

PRCT = prospective randomised controlled trial.

Steroids in lateral epicondylitis

Report by Simon Carley, Clinical Fellow
Search checked by Kevin Mackway-Jones, Consultant

Clinical scenario
A 45 year old man presents to the accident and emergency department with a two day history of a painful left elbow. He admits to undertaking a lot of gardening in the previous three weeks. Clinical examination reveals tenderness over the lateral humeral epicondyle and pain on resisted extension of the wrist. A clinical diagnosis of lateral epicondylitis is made. The patient is anxious to return to work and has heard that an injection can cure him.

Three part question
In [patients presenting with an acute lateral epicondylitis] does [a local injection of corticosteroid] [reduce pain and improve time to recovery]?

Search strategy
Medline 1966 to 4/98 using the OVID interface. ([(exp tennis elbow OR epicondylitis ti,ab,sh) AND [exp steroids OR steroid ti,ab,sh OR exp adrenal cortex hormones OR corticosteroids ti,ab,sh]] LIMIT to [english AND human])

Search outcome
Thirty seven papers identified of which two were meta-analyses. The paper by Assendelft et al incorporates all 11 of the prospective randomised controlled trials (PRCTs) from the paper by Labelle et al. The paper by Labelle et al concluded that the available trials were of insufficient quality to conduct a formal meta-analysis; trial quality was taken into account in the paper by Assendelft et al. The paper by Labelle et al was therefore discarded.

1. Reich M, Quinton D. Comparison of 1% lignocaine with 0.5% bupivacaine in digital ring blocks. ] Hand Surg 1987;12:375-6.
Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary. Lignocaine or bupivacaine for digital ring block.

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