the feasibility of implementing and managing a regional an-
esthesia programme utilizing CPNI for postoperative man-
gagement of lower extremity osteotomies for correction of
congenital or acquired limb abnormalities in children. In
this sample of patients, the use of CPNI for pain manage-
ment appeared to be safe and well tolerated. There were
no cases of compartment syndrome or irreversible sensory
or motor loss in our patient population.

Declaration of interest

None declared.

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Table 1 Patient characteristics, block approach, time to perform block, and sensory level for TPVB block in 10 patients. OOP, out of plane; IP, in-plane

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age (yr)</th>
<th>Sex</th>
<th>Height (cm)</th>
<th>Weight (kg)</th>
<th>Approach</th>
<th>Block time (min)</th>
<th>Dermatome blocked</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52</td>
<td>M</td>
<td>178</td>
<td>96</td>
<td>OOP</td>
<td>10</td>
<td>T9–11</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>F</td>
<td>183</td>
<td>100</td>
<td>OOP</td>
<td>10</td>
<td>T8–12</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>M</td>
<td>165</td>
<td>86</td>
<td>OOP</td>
<td>15</td>
<td>T10–11</td>
</tr>
<tr>
<td>4</td>
<td>54</td>
<td>F</td>
<td>152</td>
<td>77</td>
<td>OOP</td>
<td>15</td>
<td>T10–11</td>
</tr>
<tr>
<td>5</td>
<td>64</td>
<td>M</td>
<td>174</td>
<td>113</td>
<td>IP</td>
<td>15</td>
<td>T10–11</td>
</tr>
<tr>
<td>6</td>
<td>57</td>
<td>M</td>
<td>175</td>
<td>108</td>
<td>IP</td>
<td>10</td>
<td>T8–12</td>
</tr>
<tr>
<td>7</td>
<td>67</td>
<td>F</td>
<td>151</td>
<td>110</td>
<td>IP</td>
<td>15</td>
<td>Block failed</td>
</tr>
<tr>
<td>8</td>
<td>46</td>
<td>F</td>
<td>167</td>
<td>78</td>
<td>IP</td>
<td>15</td>
<td>T8–12</td>
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<tr>
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<td>F</td>
<td>162</td>
<td>48</td>
<td>IP</td>
<td>35</td>
<td>Block failed</td>
</tr>
<tr>
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<td>59</td>
<td>M</td>
<td>180</td>
<td>86</td>
<td>OOP</td>
<td>20</td>
<td>T12–L1</td>
</tr>
</tbody>
</table>
injected at each level for postoperative analgesia. The quality of sensory block was assessed by bilateral application of ice over the lower thorax and abdomen at 30 min post-procedure once the patient was alert and oriented in the recovery room. Bilateral assessments were done to rule out epidural spread. Sensory level of analgesia was recorded and patient satisfaction with analgesia documented.

Ten patients (Table 1) underwent real-time lower TPVB for analgesic block before PCNL. A real-time view of the extrapolated needle position advancing into the paravertebral space was obtained in eight out of 10 patients (three patients had in-plane blocks and five patients had out-of-plane blocks for a total of 24 PVB injections). Pleural displacement during local anaesthetic injection was visible in all cases. No complications such as vascular or pleural puncture occurred during the procedure in these cases. Postoperative assessment with ice confirmed successful sensory block in eight cases and there was no evidence of epidural spread in any patient. Time for block placement, extent of dermatome block, and block success or failure is summarized for each patient in Table 1. All eight patients with successful PVB were satisfied with the procedure and quality of analgesia. In one patient, the TPVB was abandoned because of hypoxaemia after turning the patient prone because of morbid obesity (Patient 9, Table 1). In Patient 7, the needle bent while puncturing the skin for the TPVB and irreparably damaged the needle sensor. These were included as failures on an ‘intention to treat’ basis.

In conclusion, with the ultrasound needle guidance positioning system, real-time TPVBs were performed accurately and without clinical complications such as pleural puncture using in-plane and out-of-plane approaches. This novel needle guidance technology provides an additional margin of certainty of needle and needle tip position during performance of TPVB.

Declaration of interest

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