Comparing the Anlgesic Efficacy of Ultrasound Guided Transversus Abdominis Plane Block Versus Local Wound Infiltration in Open Inguinal Hernia Surgeries using 0.25% Bupivacaine

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Abstract: Post operative pain remains to be the most common challenge after any surgery. Pain management is now one of the most important components of ERAS. Patients undergoing lower abdominal surgeries like hernia repair although do not complain of much pain pre operatively, have considerable amounts of post operative pain. Regional/ periphera...
surgery. On the day of surgery, pre operative vitals were noted after attaching monitors and all patients were given spinal anaesthesia with 3ml of 0.5% bupivacaine (heavy) in the L3-L4 intervertebral space after confirmation of free flow of CSF.

Post operatively, the patients received either USG guided TAP block or local wound infiltration with 0.25% bupivacaine.

Ultrasound guided TAP block was administered with 10 ml of 0.25% bupivacaine with the patient in supine position and the probe placed transverse to the abdominal wall in between the subcostal margin and iliac crest. A 23 gauge needle was introduced till it reached the plane between the internal oblique and transversus abdominis muscle. Successful block was confirmed on observing the expansion of the transversus abdominis plane on injecting the drug.

Post operative VAS scores were noted at 0,1,2 and 3 hrs. Rescue analgesia was given at a VAS score of 4 or more.

3. Observations and Results

3.1 Demographics

A) Age Distribution

The age distribution amongst both the groups was as follows:

![Figure 1: Graph showing age distribution amongst the two groups](image)

B) ASA Grading

The ASA grading amongst the two groups was as follows:

![Figure 2: Graph showing ASA grading of patients amongst the two groups](image)

C) Post Operative Vas Scores

<table>
<thead>
<tr>
<th>Time (Hrs)</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std Deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>0 HR</td>
<td>2.35</td>
<td>0.72</td>
</tr>
<tr>
<td>1 HR</td>
<td>2.33</td>
<td>0.72</td>
</tr>
<tr>
<td>2 HR</td>
<td>3.92</td>
<td>0.70</td>
</tr>
<tr>
<td>3 HR</td>
<td>4.64</td>
<td>0.73</td>
</tr>
</tbody>
</table>

![POST OP VAS SCORES](image)

Figure 3: Graph showing the average VAS score distribution amongst both groups post operatively

The Vas scores of Group A were higher compared to the VAS scores in group B, showing that the analgesic efficacy of a USG guided TAP block was much higher than that of local wound infiltration.

4. Discussion

Post operative pain management has always been an anaesthetic challenge. Pain management is now one of the most important components of ERAS.\(^7\)

We conducted our study on 30 male patients out of which Group A had 10 patients belonging to the ASA 1 category and 5 patients belonging to the ASA 2 category. Group B had 7 patients belonging to ASA 1 class and 8 patients belonging to the ASA 2 class. The average age of patients in Group A and Group B was 25 and 27 years respectively.

The average VAS score of the patients in Group A at the 3 hrs post operatively, was 4.64 which was much higher compared to the patients in Group B whose average VAS score was 3.06 at the end of 3 hours.

Similar studies comparing the analgesic efficacy of TAP block to local wound infiltration in patients undergoing open hernia repair and concluded that the analgesic effect of TAP block was superior to the efficacy of local wound infiltration.\(^8,9,10\)

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