Accuracy of Palpation guided and Ultrasound guided Coracohumeral Ligament infiltrations by a Physiotherapist and a Physician – A Cadaveric Case Series

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Background

- **Coracohumeral ligament (CHL) thickening with fibroplasia** is characteristic of glenohumeral idiopathic adhesive capsulitis.

- Corticosteroid injections frequently used in the treatment of glenohumeral idiopathic adhesive capsulitis.

- Intra-articular glenohumeral joint injections advocated.

- No corticosteroid injection study has targeted specifically the CHL for glenohumeral adhesive capsulitis.

Methodology

- Palpation guided infiltrations - ESP
- US-guided infiltrations – Physician
- Order/latex colour randomized
- Anatomist blinded to injecting clinicians

**US-Guided Infiltration:**
- Needle inserted superficial to the CHL.

**Palpation guided Infiltration:**
- Infiltration - 1 cm lateral to coracoid process on a line connecting lateral tip acromion process.
- CHL detected by resistance to the needle
## Results

<table>
<thead>
<tr>
<th>Infiltration type</th>
<th>Palpation guided</th>
<th>US-guided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Not Accurate</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Percentage Accurate</td>
<td>75%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Chi-square test of independence with Yates correction:

\[ \chi^2 \text{(Yates correction)} \ (1, N=22) = 0.054, \ p=0.82. \]

**Accuracy of Palpation guided and US-guided infiltrations not significantly different.**
Conclusion

- Good Accuracy for both US-guided and Palpation guided Periligamentous CHL Infiltrations
- An ESP trained in musculoskeletal injection techniques can specifically target the CHL with periligamentous Infiltration.
- May represent a more specific option for glenohumeral adhesive capsulitis treatment than intra-articular injections.
- Future studies
  - With patients having a glenohumeral adhesive capsulitis to assess outcome and cost effectiveness

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