Does cervical exploration still worth it in total brachial plexus palsies?

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Objective

Preoperative clinical examination coupled with MRI

Diagnostic of C5/C6 graftable(s) roots?
Material & Methods

Pre-operative examination

Preoperative MRI (STIR 3D sequence)

Avulsion/rupture?

Horner & Tinel signs
Anterior serratus palsy (protraction test)
Phrenic palsy (Xrays)

Material & Methods

Surgical exploration of C5 + C6 roots

Avulsion or rupture?
Graftable or not?

# Results

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Negative Predictive Value</th>
<th>Specificity</th>
<th>Positive Predictive Value</th>
<th>Diagnostic Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tinel Sign</td>
<td>100%</td>
<td>100%</td>
<td>80%</td>
<td>89%</td>
<td>93%</td>
</tr>
<tr>
<td>Serratus</td>
<td>65%</td>
<td>63%</td>
<td>100%</td>
<td>100%</td>
<td>78%</td>
</tr>
<tr>
<td>MRI</td>
<td>89%</td>
<td>80%</td>
<td>89%</td>
<td>94%</td>
<td>89%</td>
</tr>
</tbody>
</table>

What if Tinel Sign? NO Tinel Sign NO Graftable Root

What if Negative Testing? Serratus + Graftable Root
Results

Sensitivity → 100%
NPV → 100%

Tinel sign

Present
- Serratus testing
  + Graftable root
  - RMI
    + Graftable root
    - No graftable root

Absent
- No graftable root
Results

Sensitivity = 100%
NPV = 100%

[Diagram showing Tinel sign (n = 27) and Serratus testing (n = 19) with positive and negative outcomes leading to graftable root (n = 11) and RMI (n = 8) with positive and negative outcomes leading to graftable root (n = 6 + 1 FP) and no graftable root (n = 1).]
Discussion

1st Study with *Non Invasive Diagnostic*

Best Sensitivity + NPV

- Short Series!
- Missing Histology

Other Studies for Partial Brachial Plexus Palsies?
Conclusion

Efficient Method for Diagnosis of Graftable C5/C6 roots.

Prevent the Morbidity of Cervical Exploration?
Thank you for your attention