

# 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 ?**

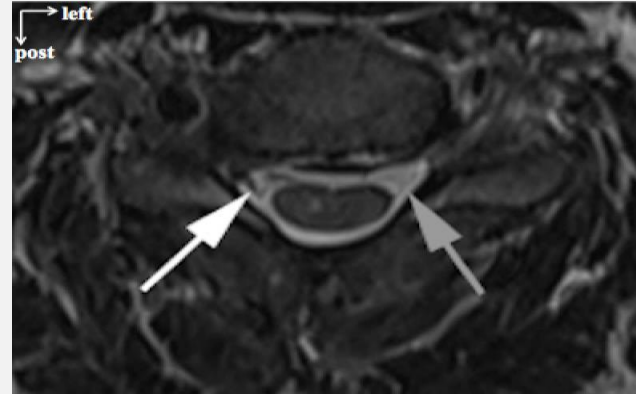
# Material & Methods

Pre-operative  
examination

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

Preoperative MRI  
(*STIR 3D sequence*)

Avulsion/rupture ?

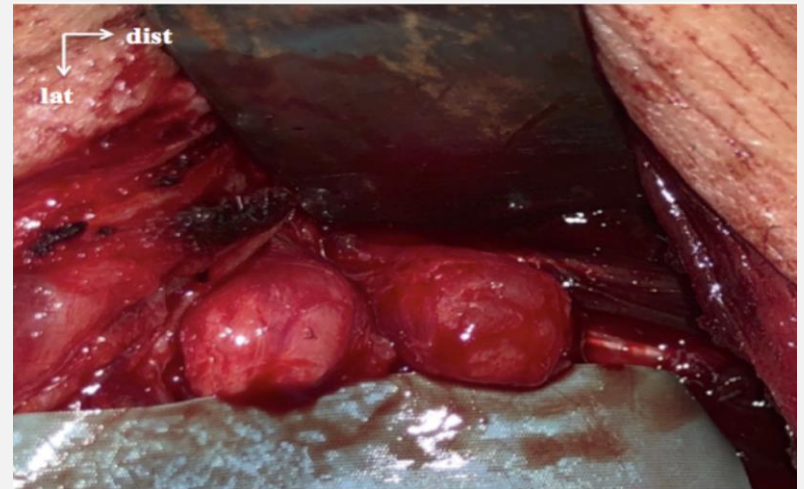


*Bertelli JA, Ghizoni MF. Use of clinical signs and computed tomography myelography findings in detecting and excluding nerve root avulsion in complete brachial plexus palsy. J Neurosurg 2006;105:835-42.*

# Material & Methods

Surgical exploration of  
C5 + C6 roots

Avulsion or rupture ?  
Graftable or not ?



*Addosooki A et al. Evaluation of C5 nerve root repairability in traumatic brachial plexus injuries: proposal of an evaluation scoring system. J Reconstr Microsurg 2008*

# Results

	Sensitivity	Negative Predictive Value	Specificity	Positive Predictive Value	Diagnostic efficiency
Tinel Sign	100%	100%	80%	89%	93%
Serratus	65%	63%	100%	100%	78%
MRI	89%	80%	89%	94%	89%

**NO Tinel Sign**

**Serratus +**

**NO Graftable Root**

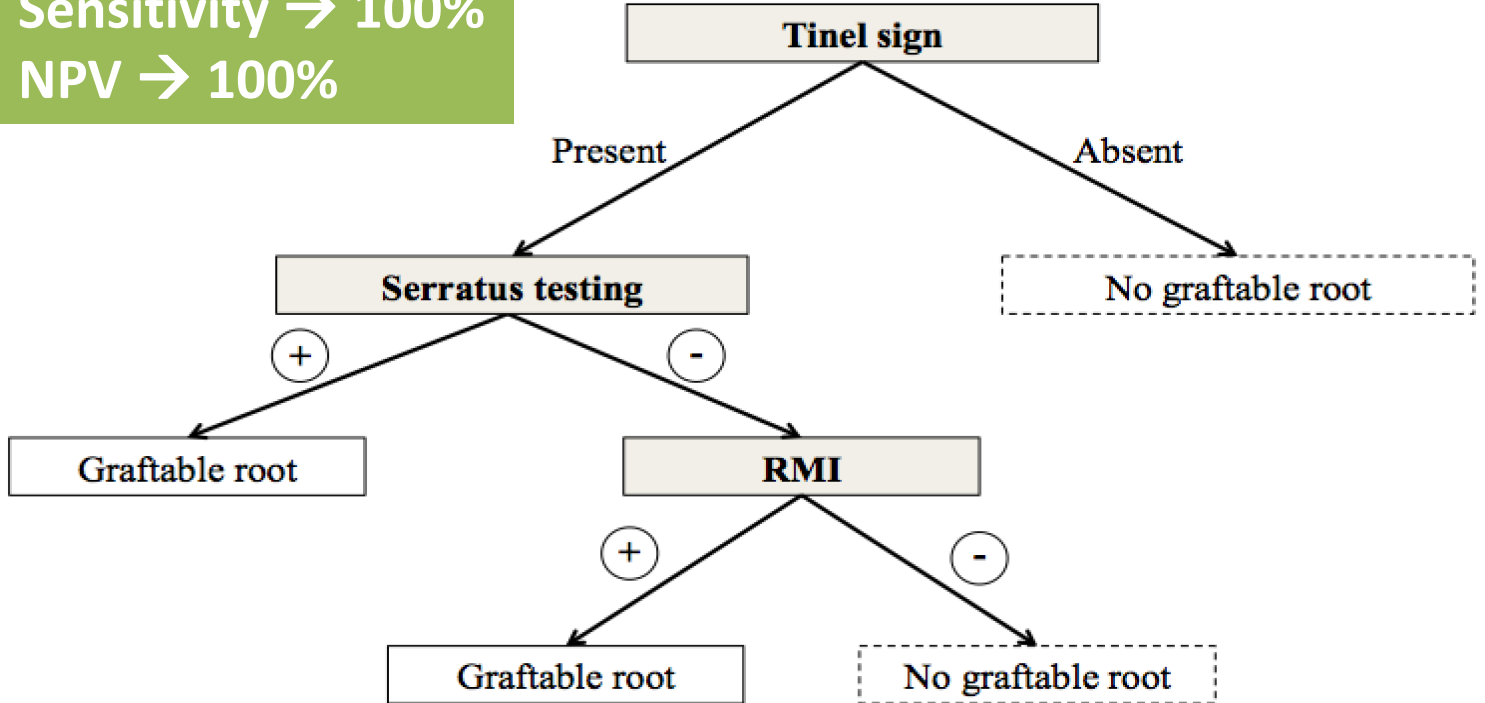
**Graftable Root**

**What if Tinel Sign?**

**What if Negative Testing ?**

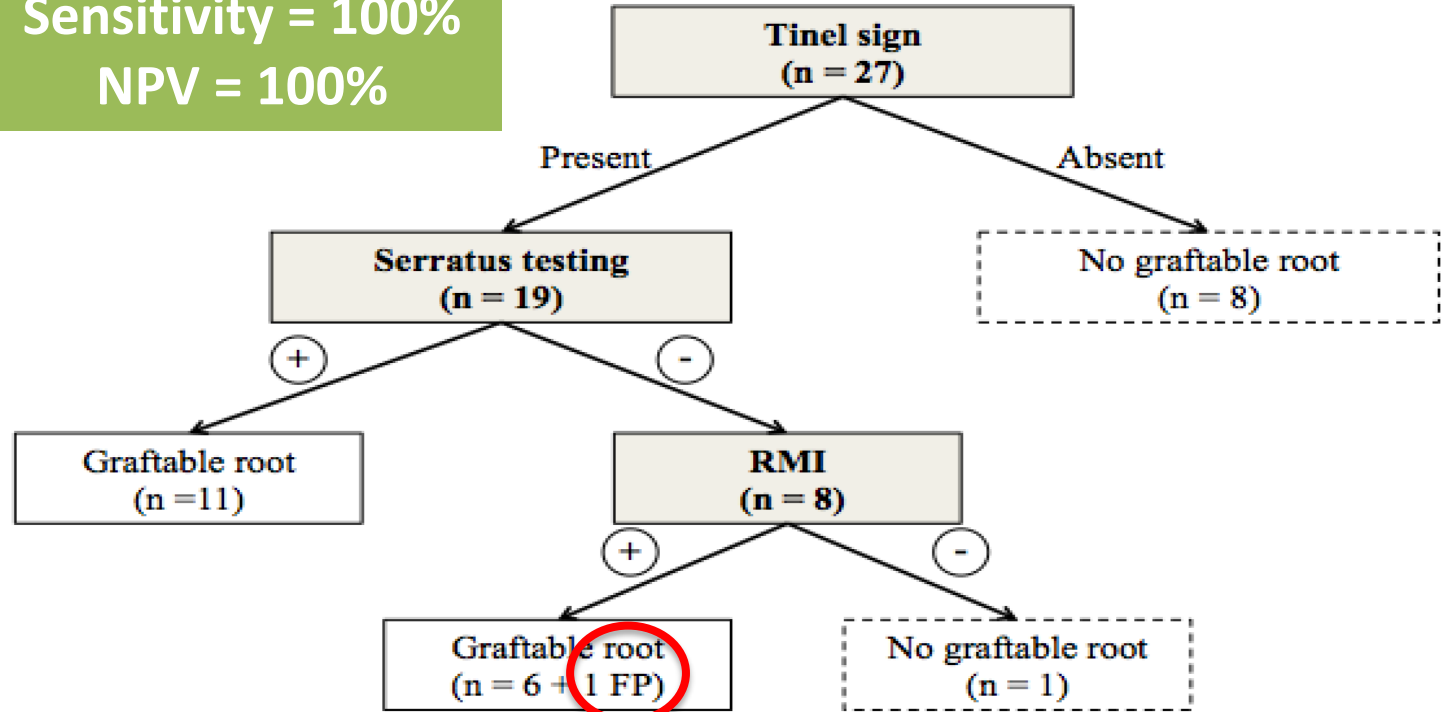
# Results

Sensitivity → 100%  
NPV → 100%



# Results

Sensitivity = 100%  
NPV = 100%



# 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**

