False Positive Cubital Tunnel Provocative Tests in Carpal Tunnel Release Patients

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Introduction

- Cubital tunnel syndrome (CBTS) and carpal tunnel syndrome (CTS) are known to coexist, so clinical judgement is critical when a patient scheduled for carpal tunnel release (CTR) may consider a simultaneous cubital tunnel release. Such determination depends on preoperative assessment that includes ulnar nerve provocative tests (UNPT). For clinical evaluation of CBTS in the presence of CTS to be adequate, UNPT should have a low false positive rate (FPR).
- **Purpose:** To determine the FPR of UNPT in patients scheduled for CTR.

Methods

- We reviewed the medical records of 40 CTR patients (50 elbows) who had no signs nor symptoms of ulnar neuropathy and collected preoperative UNPT that included the Tinel's test and elbow flexion compression (FC) test.
- We calculated the Odds Ratios (OR) of a false positive test and applied Chi square and Fisher's Exact tests for categorical variables. We used logistic regression analysis to calculate the OR for Age. We set statistical significance at $p<0.05$.

Results

- . 48% and 44% of the elbows had a false positive Tinel's test and FC test, respectively. 34% and 58% of the elbows had both or at least one false positive UNPT, respectively.
- Sex, diabetes, and alcohol consumption did not have a statistically significant effect, whereas smoking increased the odds of a FPR for both tests and age lowered the odds for the FC test but not the Tinel's test.

Odds Ratios	Flexion Compression	P	Tinel's	P	Both	P
Age	0.1	**0.03***	0.1	0.06	0.2	0.14
Male	1.5	0.52	1.6	0.4	1.4	0.58
Diabetes	0.9	0.92	1.4	0.62	1.2	0.83
Smoking	10.8	**0.001***	4.6	**0.03***	6.4	**0.01***
Alcohol	1.2	0.76	0.9	0.81	0.8	0.77

* Signifies P<0.05

Conclusion

- The treating physician should be aware of the false positive rates of UNPT in CTS patients.
- This is especially important when the addition of cubital tunnel release at the time of CTR is being considered.