hard to diagnose, and MSUMLD is the most helpful in these cases. Ulnar motor latency is usually unaffected in mild CTS, while ulnar sensory latency rises (27,28). Previous studies have shown the Median and Ulnar motor latencies are significantly correlated as well as the Median and Ulnar sensory latencies in both normal and CTS, while the Median sensory and Ulnar motor are not. This can make the MSUMLD more sensitive than the (Median-Ulnar) motor or sensory latency differences.

There are some limitations to this study. For severe CTS, MSUMLD could not be compared with RL and TLI because the median sensory responses by definition could not be obtained. However, severe cases are easily diagnosed by standard criteria. There was limited information on some patients. This was a retrospective study. Diagnostic criteria were primarily EDX.

There were more female subjects in this study. However, CTS incidence is reported to be significantly higher in female population (29). Therefore, we did not need equal numbers of males and females in the control group to avoid bias. The younger control population is a limitation. Nerve conduction velocities are affected by age. There is a negative correlation between the increasing age and both NCV and amplitude per decade after the age of 20 (30). However, both median and ulnar distal latencies rise by similar degrees with increasing age, and both velocities fall to a similar degree. So a difference such as the MSUMLD should not change much with age, and this is likely also true for TLI and RL. Our normal group was referred for a clinical diagnosis of CRP and was relatively younger than the CTS group. Attempting to match the CTS group by age would have required using a much smaller normal group.

CONCLUSIONS

MSUMLD is the best calculated parameter for diagnosis mi CTS using a minimum number of tests. It requires just a simple calculation and no additional testing. RL and TLI are also useful in diagnosing mild to moderate CTS.

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