

Digital bradykinesia Q-motor assessment in naïve Parkinson's disease patients

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INTRODUCTION

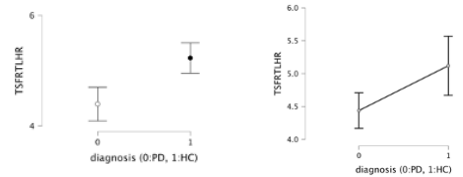
- Q-Motor is a quantitative motor assessment platform that provides objective evaluation of motor dysfunction in various neurological conditions
- Despite its ability to objectively quantify motor function, it is not yet widely used to standardize the assessment of motor changes in these conditions

METHODS

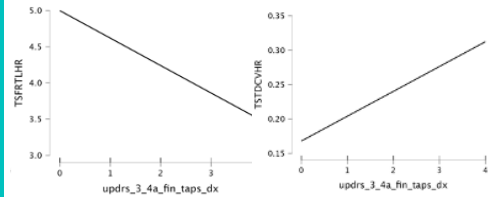
- 67 drug-naïve, middle-aged naïve PD patients and 25 age-matched healthy controls were selected
- All participants underwent clinical assessment and motor testing using the Q-Motor finger tapping task.
- Group comparisons were performed using independent t-tests
- Linear regression models were applied to assess the association between clinical measures and Q-motor metrics
- All results were adjusted for age and sex

RESULTS

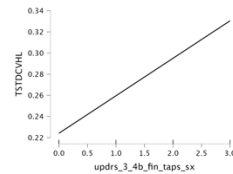
- A significant difference ($p = 0.002$) in right-hand Q-Motor frequency was observed between PD and HC. A significant correlation was found between clinical status and motor outcome ($p = 0.013$; $t = 2.543$)



- Right-hand Q-Motor performance (frequency, variability, and task duration) correlated with right finger-tapping bradykinesia.



- Variability in left tap duration correlated with left finger-tapping bradykinesia ($p = 0.001$; $t = 3.352$)



CONCLUSION

Q-Motor assessment is an objective and valid tool for quantifying bradykinesia severity in drug-naïve Parkinson's disease patients and to distinguish them from healthy controls. Studies with larger cohorts are needed to confirm these findings.



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