Clock drawing test: is it useful for dementia screening in patients having Parkinson disease with and without depression?

Despite the wide use of clock drawing tests (CDTs) for screening cognitive impairment, their use in patients having Parkinson disease (PD) with dementia has not been systematically investigated until date. In this cross-sectional study, neurological and neuropsychiatric statuses of 1449 outpatients having PD with and without dementia were comprehensively assessed. The CDT revealed cognitive impairment in 42.7% of the 1383 patients whose drawings were available. Overall, CDT sensitivity and specificity were 70.7% and 68.9%, respectively. The positive and negative predictive values were 48.0% and 85.3%, respectively. In patients with depression, CDT specificity dropped significantly to 55.8% (71.3% in nondepressed patients, $P<.001$). Classification performance was not impacted by motor symptoms. The estimated classification performances and predictive values correspond to those reported previously for non-PD populations. Our results indicate that CDT is a suitable screening instrument in patients with PD, but test results from patients with depression warrant careful consideration.