Driving ability and neurological diseases: new studies on accident risk

Are people with neurological diseases fit enough for the road? How can their ability to drive safely be determined? Greek research teams at the Joint Congress of European Neurology in Istanbul presented the initial results of ongoing studies attempting to answer these questions.

Istanbul, 3 June 2014 – Is it better if people with certain neurological diseases do not get behind the wheel? How can we best judge whether their reflexes still meet the demands of driving on the roads? Greek research teams presented findings relating to these questions at the Joint Congress of European Neurology in Istanbul.

Advanced age riskier than illness

To address the question of reaction time, Dr Alexandra Economou (University of Athens) and her colleagues put a total of 87 volunteers of different ages behind a driving simulator: 49 healthy control subjects, 14 drivers with mild cognitive impairment, 13 others with a mild form of dementia and eleven patients suffering from Parkinson's disease. Their reaction times to unexpected incidents were tested under simulated urban and rural driving conditions. "When only one factor was considered, namely age, the test results showed that reaction times in both city as well as country driving depended mainly on how old the participants were, regardless of whether they were healthy or sick," Dr Economou reported. "When the various groups of patients were compared to the healthy control group, however, dementia patients 'driving' on rural roads fared the worst."

New testing procedure shown successful

When experts are using neurological measures for predicting the driving competence of patients with Parkinson's disease (PD), they commonly select the Trail Making Test (TMT), an internationally used method for checking brain function performance. A group of researchers from Attikon University Hospital, Greece (Beratis et al.) used an alternative measure, the Comprehensive Trail Making Test (CTMT), that aims at widening the spectrum of cognitive functions assessed by the classical TMT. At the Congress in Istanbul, they presented the following interim result: “A group of patients with PD completed a comprehensive medical and neuropsychological assessment as well as a driving simulator evaluation. Our latest findings indicate the importance of using diverse measures for checking the roadworthiness of Parkinson patients. In particular, the CTMT has shown itself very useful in that respect. When compared to the classical TMT it appears to be a better predictor of various indexes of driving performance, namely average speed, speed variation and reaction time to unexpected incidents.”

Sources:

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