



The 2nd International Neurotrauma Congress & the 4th International Roads Safety Congress

Shefa Neuroscience Research Center, Tehran, Iran, 18-20 February, 2015

The Neuroscience Journal of Shefaye Khatam

Volume 2, No. 4, Suppl. 3

Poster Presentation

Driving and Neurodegenerative Diseases

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Published: 18 February, 2015

Abstract

The proportion of elderly in the general population is rising, resulting in greater numbers of Drivers with neurodegenerative disorders such as Alzheimer's disease (AD) and Parkinson's disease (PD). Alzheimer's disease is a progressive neurodegenerative disorder typified by memory impairment with executive dysfunction, motor problems, and/or language difficulties. Parkinson's disease is a progressive neurodegenerative disease that impairs ability to execute conscious physical movement in addition to other motor functions. What is more, mood disturbances may occur as well. However, PD appears to be associated with decreased driving and increased crashes, especially in those with worse motor and cognitive dysfunction. A review panel found that drivers with mild cognitive impairment (MCI)-very mild AD (Clinical Dementia Rating Scale [CDR]=0.5) - have impairments similar to drivers aged 16–21 or those driving under the influence of alcohol at a blood alcohol concentration <0.08%. They were also recommended to reassess dementia severity and driving fitness every 6 months, but quit driving in mild AD (CDR=1) due to history of increased crashes and poor driving performance. In conclusion, Medical diagnosis or a clinician's assessments alone are not accurate enough to determine driving competence in those with dementia. Although neuropsychological tests help them to understand associations of driver performance with cognitive impairment, a general lack of validated cut off scores makes it impossible to employ these tests in a standardized fashion to advice patients. Furthermore, there are no established guidelines on driver's follow-up timing with mild dementia; recommendations range from 6 months or less than a year. Thus, medical diagnosis or age alone is not reliable enough to predict driver safety, crashes, or revoke the driving privileges of these drivers. In addition, outlining the evolution of driving safety, understanding the mechanisms of driving impairment, and developing a reliable and efficient standardized test battery for prediction of driver safety in neurodegenerative disorder informed healthcare providers to advise their patients about neurodegenerative disorders with more certainty, affected policy, and develop rehabilitative measures for driving.

Keywords: Driver Performance, Driving, Road Safety, Neurodegenerative Diseases.

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