

Drivers With Single-domain Amnestic MCI Show Poorer On-road Driving Performances

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On-road driving skills and fitness to drive are impaired in drivers with single-domain aMCI. Although prospective 12-months accident risk is not dramatically increased, driving cessation should be considered at this point, particularly if there is evidence for cognitive decline. Particular caution is required in specific traffic situations.

INTRODUCTION	METHODS	RESULTS		CONCLUSIONS
Cognitive impairment in prodromal Alzheimer’s disease dementia is typically characterized by an isolated episodic memory dysfunction, being defined as single-domain amnestic mild cognitive impairment (sd-aMCI). As memory is not one of the key cognitive factors for safe driving, it was suggested that drivers with sd-aMCI rather show suboptimal driving performances than a definitely impaired fitness to drive.	In a prospective on-road study, we examined on-road driving skills, fitness to drive and prospective accident risk in 181 healthy older drivers and 45 older drivers with sd-aMCI (76.6 y +/- 6.2 y). All participants underwent standardized on-road assessments (50 minutes, 18-km route) and neuropsychological examinations. Driving performance and fitness to drive were rated by a driving expert. Moreover, prospective at-fault accidents were registered (12-months-follow-up).	Results reveal that drivers with sd-aMCI showed a higher proportion of unfit drivers ($p = 0.044$) compared to healthy controls (26.7% versus 14.4%) as well as poorer total on-road driving performances ($p = 0.025$), particularly involving on-road driving behaviour at complex intersections, keeping a safe distance from the vehicle in front, and impaired visual communication with other road users.		Prospective accident risk was tendentially higher in drivers with sd-aMCI as well. Group comparisons, however, did not reach statistical significance. Lower performances in drivers with sd-aMCI were associated with different driving-related risk factors. Our results suggest that on-road driving skills and fitness to drive are impaired in drivers with single-domain aMCI. Driving cessation should be considered at this point, Particular caution is required in specific traffic situations (e.g. complex inter-sections). 
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