Dementia and driving

An approach for general practice

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Background

As our population ages, the proportion of drivers with dementia will continue to rise. Increasingly, health professionals are faced with the clinical dilemma of determining fitness to drive. Unfortunately, the management of drivers with dementia is fraught with hazards.

Objective

This article attempts to provide an overview of the complex issue of driving and dementia as it relates to general practitioners in Australia. In addition, an evidence based management strategy is proposed.

Discussion

When determining an individual's fitness to drive, a clinician's input may have legal, ethical, emotional and social ramifications. At present, a clear consistent national protocol detailing how one should establish fitness to drive is lacking. There is a need for research addressing how to facilitate early retirement from driving without jeopardising patient-doctor relationships.

Keywords

automobile driving; dementia

Case study

Olive, a widow, 75 years of age, has been attending your practice for over a decade. Three years ago she was diagnosed with Alzheimer disease but has remained relatively independent since. She lives with her daughter, Julie, and drives a car. Olive is compliant with her anticholinesterase medication. However, Julie reports further deterioration in her mother's memory with recent episodes of wandering. Upon questioning you establish that Olive has been getting lost while driving. Furthermore, she has recently had a minor car crash and two near misses. During your consultation with Olive, she becomes defensive, denies a history of accidents and states confidently that she is a safe driver. In your office, her Mini-Mental State Examination score is 20/30. The remainder of her examination is unremarkable.

In the *Case study* our suggested course of management would include:

- holding a frank, yet sensitive, discussion with Olive and her family regarding the risks posed to her and to others in view of her dementia
- highlighting alternative transport options (eg. taxi subsidies, public transport)
- explaining the necessity of driving retirement and that measures should be taken to remove her access to automobiles
- documenting your discussion
- considering formal notification to the driver licensing authority as per local legislative requirements.

Driving is a deceptively complex task.[1] In 1997, Lipski[2] argued that 'until we have better evidence about what is safe, we should not allow people with dementia to drive motor vehicles'. Over a decade later, convincing evidence about what is safe remains elusive,[3] and no clear management protocols exist for Australian general practitioners caring for patients with dementia who drive. To complicate matters further, instructing a patient to retire from driving may irrevocably damage a long standing patient-doctor relationship.[4] Snellgrove et al[5] established that an overwhelming majority of GPs do not wish to be responsible for the assessment of fitness to drive in people with dementia.

Defining dementia

Dementia refers to a syndrome characterised by a progressive deterioration of memory and at least one other cognitive domain (eg. language, executive function, praxis), which interferes with daily function and independence.[6] There are numerous conditions which result in dementia.

The commonest causes are Alzheimer disease (60% of cases), vascular dementia (5–20% of cases), Lewy body disease and frontotemporal dementia.[7] Other less common causes include alcoholism, Parkinson disease, Huntington disease, progressive supranuclear palsy and normal pressure hydrocephalus.

Scope of this issue in Australia

Meta-analysis of epidemiological data has established that the prevalence of dementia in people over the age of 65 years is 6.4%.[8] However, the incidence of new cases rises exponentially after the age of 65 years. It is estimated that the number of people in Australia with dementia has reached 257 000 and will rise to 591 000 by 2030.[9]

Given the increasing number of older drivers[10] there is a pressing need for research addressing how best to enable early retirement from driving.

What is the impact of dementia on driving skills?

Two major issues of relevance to drivers with dementia are the progressive nature of the condition and the potential for loss of insight. There is evidence that driving skills deteriorate with increasing dementia severity.[11] More specifically, dementia frequently leads to impaired visuospatial skills, attention, memory and judgement.[12] Driving is a complex task which requires such functions. Visuospatial skills are necessary to ensure accurate depth perception, lane alignment and overtaking. Attention and judgement are important factors when negotiating roundabouts or intersections. Memory deficits can contribute to getting lost and may result in errors while driving.[12] Patterns of neurological deficit that occur in dementia vary, depending upon the subtype.

What are the risks?

Older drivers have relatively few crashes.[10,13] However, when the number of accidents per distance travelled is calculated, the crash risk of drivers over the age of 75 years is similar to that of drivers aged 16–24 years.[13,14] It is not surprising that drivers with dementia have a significantly higher risk of car accidents compared to aged matched cognitively normal drivers.[2] Two studies which compared the crash risk of individuals with dementia to cognitively normal controls determined an odds ratio ranging from 7.9–10.7.[15,16] For a range of reasons (eg. shopping, visiting family or friends), many individuals with dementia continue to drive after diagnosis.[17,18] Several researchers have found that many retire from driving only after they have had one or more crashes.[15,19,20] In addition, one study demonstrated that 80% of those who were involved in a crash continued to drive afterward, with almost 40% having at least one more crash.[21]

Driving and mild dementia

Dobbs[22] argues that although a diagnosis of early dementia should alert a doctor to the fact that a patient may not be competent to drive, it is not sufficient reason to enforce driving retirement in all cases. There is evidence to support such a claim. For example, Ott and Daiello[23] found that pooled data from two longitudinal studies[24,25] involving 134 drivers with dementia established that 69% of drivers with mild dementia and 88% of drivers with very mild dementia could pass on-road driving assessments.

National and international guidelines

A systematic review of the available literature by the American Academy of Neurology[26] identified several characteristics as indicative of patients with dementia who are at increased risk of unsafe driving. These included the clinical dementia rating score, a carer's rating of a patient's driving ability as marginal or unsafe, a history of reported traffic offences, a history of crashes, reduced driving mileage, self reported situational avoidance, Mini-Mental State Examination (MMSE) score of ≤24 and aggressive or impulsive personality characteristics. Interestingly, the review also determined that an individual's self rating of driving ability was not a reliable indicator of accident risk. The review established that there is insufficient evidence to support or refute the benefit of either neuropsychological testing or interventional strategies for drivers with dementia. Unfortunately, as there is neither a test nor a historical feature that accurately quantifies driving risk, clinicians can only make 'qualitative estimates of driving risk'.[26] Iverson et al[26] concluded that patients with mild dementia are at a substantially higher risk for unsafe driving and thus should strongly consider discontinuing driving.

In 2009, the Australian and New Zealand Society for Geriatric Medicine released a position statement[27] that specifically addressed the topic of driving and dementia (*Table 1*).

Striking a balance

The process of retirement from driving may be voluntary or involuntary. Enabling voluntary early retirement from driving could potentially reduce crash related morbidity and mortality. It is widely recognised that 'autonomy for the elderly is an extremely important goal both socially and economically'.[23] Unfortunately, the transition to nondriving has been linked to increased rates of depression[28] and placement in residential care.[29] This highlights an important, yet unresolved issue: How should society, licensing authorities and the medical profession manage the issue of retirement from driving in a judicious manner?

Table 1. Key features of the Australian and New Zealand Society for Geriatric Medicine position statement[27]

- Some people with mild dementia may drive safely
- It is not reasonable to suspend a patient's licence based solely on a diagnosis of mild dementia
- A driving co-pilot is not a recognised safe practice for reducing safety risk in dementia
- An occupational therapy on-road driving test is accepted as a 'gold standard' assessment
- Neuropsychological results generally do not sufficiently or consistently correlate with on-road driving performance
- Regular review (at least 6 monthly) of safe driving capacity is required in patients who retain a driving licence in early dementia

Table 2. Legislative requirements for Australian GPs[30]

State/territory	Mandatory reporting	Indemnity from legal action
Australian Capital Territory	No	Yes
Northern Territory	Yes	No
New South Wales	No	Yes
Queensland	No	Yes
South Australia	Yes	Yes
Tasmania	No	Yes
Victoria	No	Yes
Western Australia	No	Yes

What are the legislative requirements for Australian GPs and their patients?

As per the 2012 Austroads guidelines, an individual with dementia may not hold an unconditional drivers licence.[30] Furthermore, all drivers in Australia with a condition which may impact on their ability to drive are legally obliged to inform the driver licensing authority. Most adults, however, are unaware of this obligation.[31]

Both South Australia and the Northern Territory have mandatory reporting legislation in place. Discretionary reporting applies to GPs in the remaining states and territories (*Table 2*). The Australian Medical Association[32] and Somerville et al[33] argue that mandatory reporting by doctors of all unfit drivers is inappropriate for many reasons, such as it encourages concealment of symptoms.[33]

A suggested management strategy for GPs

- Raise the issue of driving with all patients with cognitive impairment
- Avoid an over reliance on MMSE scores[5,26]
- Acknowledge that some spouses are unreliable judges of driving skills. They may be afraid to raise their concerns with you in view of the potential consequences
- Aim to provide an early diagnosis of dementia (if possible) as this enables individuals and their families to plan for the transition to not driving[10,34]
- Remind your patient of their obligation to report their diagnosis to the driver licensing authority
- Direct your patient and their family to reliable sources of additional information such as Alzheimer's Australia (see *Resources*)
- Discuss alternative forms of transport (eg. public transport, family members)
- Consider discussing the potential impact an accident would have on others
- Inform patients that should an accident occur they may face civil or criminal prosecution
- Explain that car or life insurance policies may be void if driving when deemed medically unfit to do so
- Document your discussions
- Re-assess dementia severity and fitness to drive every 6 months for those patients with mild dementia who are deemed safe to continue driving[1,5,27]
- Consider an occupational therapist driver assessment referral (limited by availability and cost) which can be repeated (see *Resources*)
- If unsure as to how to proceed, then refer the patient to a geriatrician or neurologist.

Summary

The complex and serious issue of driving and dementia warrants a direct, yet sensitive approach by clinicians. For many patients, licence cancellation may be indicated without on-road assessment[35] and accepted without complaint. However, on occasion, individuals and/or their spouses may be reluctant to fall in line with a GP's well-founded recommendations. Optimal patient management is hampered by the lack of explicit national driver licensing authority guidelines or review mechanisms[5] that health professionals can access. It would seem that, for now, GPs remain dependent on the art and science of medicine in order to achieve a satisfactory outcome for patients and the wider community.

Resources

- Alzheimer's Australia: www.alzheimers.org.au
- Austroads: www.austroads.com.au
- National Dementia Hotline: 1800 100 500
- www.alzheimers.org.au/national-dementia-helpline.aspx
- Occupational Therapy Australia: www.otaus.com.au.

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