Stroke and driving

Doctors have a very important role in public safety by ensuring that patients understand their medical condition may impair their ability to drive. The aim of our study was to determine whether appropriate driving advice based on national guidelines was given to patients admitted with TIA or acute stroke.

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The ability to drive can be significantly affected by a number of medical conditions, including neurological disorders, diabetes and cardiovascular disease. A driver can either have a sudden incapacity while at the wheel, for example seizure, or an impairment (permanent or temporary disability), for instance visual disturbance or motor deficit as a result of a transient ischemic attack (TIA) or stroke.¹ It is known that driving while having any of these conditions may pose an increased danger to the patient and the public. This makes the topic of "neurological conditions and driving" of importance to physicians.

In the UK, the Driver and Vehicle Licensing Agency (DVLA) is legally responsible for vehicle licensing and deciding if a patient is fit to drive. Although it is the duty of the license holder or license applicant to notify the DVLA of any medical condition which may affect safe driving, doctors have a very important role in making sure patients understand that their medical condition may impair their ability to drive.

Cerebrovascular disease, the third most common cause of death in the western world, is one of the important conditions that can have an impact on safe driving. Stroke and TIA are common neurological presentations to the acute medical teams and a substantial number of these patients hold a driving license.

Aims

We conducted a study to determine whether appropriate driving advice based on the DVLA guidelines was given to patients admitted with TIA or acute stroke and to determine whether the advice given was documented in the notes.

Methods

The medical records of the patients who were admitted with diagnosis of TIA or acute stroke (ischaemic or haemorrhagic) to the Medical Admissions Unit in two medical centres in the UK (Hull Royal Infirmary and Scarborough General Hospital) in the six months period up to June 2008 were reviewed.

This was a retrospective study and the medical notes and computer records of the patients were reviewed. The review was focused on the emergency admission and not on the outpatient follow up. The DVLA guidelines on cerebrovascular disease were used as the standard.

Outcomes

Overall 118 notes were reviewed, but 33 patients were excluded for the following reasons:
• Death
• Long-term disability: severe multiple sclerosis (wheelchair bound), advanced Parkinson’s disease, registered blind, advanced dementia
• Dependency on carers; eg. nursing home residents
• Other diagnoses.
Demographics of the patients and the diagnoses are summarised in Table 1.

Out of 85 patients, five patients (5.8%) received driving advice. This advice was documented in the
medical notes and the discharge letter in only one patient (1.1%), and only in the notes but not in the discharge letter in four patients. A significant number of patients (94.2%) did not receive advice or if advice was given, it was not documented.

Two of the cases had documentation of the patients' driving status as part of the social history. Out of these two patients, one received driving advice. Among the TIA patients, two had recurrent TIs, neither of which had driving status documented or received advice.

The quality of the advice given was not always accurate. Here is the exact wording of the documented advice: "Can not drive for at least 3-6 months" for one patient. "Not to drive and to inform DVLA" for four patients. Patients were admitted by junior doctors (different grades) and all were reviewed by the consultant physician on the post-take ward round. A number of patients were referred to the neurology team. The driving advice was given by different members of the team:

- Consultant physician: one out 85 patients visited (1%)
- Medical registrar: one out 58 patients visited (2%)
- Neurology registrar: two out 11 patients visited (18%)
- Senior house officer: one out 85 patients visited (3%).

It is likely that more patients have received advice, but it was not documented in the medical notes.

**Discussion**

The ability to get out and about is a vital factor in patients' employment prospects, social interactions and overall quality of life. There is more emphasis on preserving mobility in modern traffic medicine, but safety of the public and patients is of paramount importance. Across European member states, although patients with neurological conditions can experience widely different regulations regarding driving, the emphasis is on the safety of road users and the public.

As the population age and an increasing number of people—including older people—drive, doctors play a key role in helping to ensure that unfit drivers are kept off the roads. This can be achieved by not only advising patients of the possibility of stopping driving but also taking necessary steps to ensure that the relevant statutory authorities are informed of breaches of regulation if there is reasonable concern about public safety.

Our study shows that in terms of advising patients with cerebrovascular disease regarding driving, the majority of doctors—including senior clinicians—either had insufficient knowledge or forgot to do it. Out of 85 patients admitted with TIA or stroke to two medical centres in the UK, only 5.8% received driving advice and only one patient had formal documentation of this advice. This emphasises the need for a basic level of knowledge on the recommendations on fitness to drive for all doctors, and the need for regular updating of this knowledge. Our results are in keeping with previous studies that suggested a lack of knowledge among doctors regarding safety of driving of their patients.

In a survey of all 32 medical schools in the UK, Hawley et al concluded that teaching on fitness to drive is inconsistent across the UK medical schools and a great number of newly qualified doctors have limited knowledge of this subject. King et al assessed 400 GPs and 246 hospital doctors' knowledge on laws and recommendations regarding fitness to drive in certain medical conditions and demonstrated poor knowledge of doctors on several aspects of fitness to drive and recommended more attention in undergraduate and postgraduate education to this subject.

High pressure atmosphere, increasing number of patients and work overload are particular problems in Emergency Departments and Medical Admissions Units. Many patients with TIA or minor stroke are assessed and managed in these settings and doctors are likely to forget to ask and advise their patients.
regarding driving. Brooke et al showed that patients with a variety of medical conditions were not being informed about their fitness to drive following consultation in the A&E department.\(^7\)

A study by Kelly et al showed that a significant number of patients have a wrong perception about their ability to drive. They investigated awareness of 150 elderly patients of medical restrictions to driving for five specific medical conditions: stroke, epilepsy, myocardial infarction, \(5\)-\(cm\) abdominal aortic aneurysm, and diabetes. Out of patients who were current drivers, almost one third should not have been driving. While out of 103 patients who perceived themselves eligible to drive, almost half had medical restrictions to driving. They also looked at 50 doctors’ knowledge of the current medical restrictions on the same five conditions and found it was very poor.\(^8\)

Whenever a TIA or stroke is suspected or diagnosed, it is very important to ask about the driving status of the patient and to check for neurological deficits, particularly those that affect ability to drive such as visual field defects, diplopia, visual neglect and motor/sensory dysfunction.

The doctor is responsible for making sure that the patient understands that this condition may impair their ability to drive and also for advising the patient that he/she should not drive and that they have a legal duty to inform the relevant authorities about the condition. Doctors are advised to document formally and clearly in the notes of all decisions, actions and the advice that has been given. To improve patients and public safety, medical students and doctors at all levels (regardless of seniority and specialty) should be educated regarding:

- The importance of driving advice, possible medicolegal implications, what the patient should be told, and where to seek advice in case of uncertainties
- Every doctor should feel responsible for advising the patient and it should not be left to “someone else” or “another team”
- Driving status of the patient should be included in the social history. This can serve as a reminder for clinicians who subsequently visit the patient to advise the patient regarding driving
- People in old age still drive, even patients with dementia
- All the relevant information must be documented in patient’s notes in a clear way. “If it is not documented, it has not happened!”

Providing patients with written information and advice at the time of discharge, such as a leaflet on driving and stroke, can be helpful. Regular audits are necessary to improve our practice.

Conflict of interest: none declared

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References

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