Impaired Driving Related to Medications and Neurological Diagnoses

Researchers investigated the degree to which various common agents, including benzodiazepines and non-benzodiazepine hypnotics, may affect driving ability. Therapy selection and patient counseling are key to safe use.

A Q&A WITH AMANDA HETLAND

Several classes of commonly prescribed medications, including therapies to promote sleep, have been associated with driving impairment measured by road performance, driving simulation, and/or motor vehicle crashes. A team of researchers recently reviewed 30 studies of the effects of driving on barbiturates, benzodiazepines, hypnotics, antidepressants, opioid and nonsteroidal analgesics, anticonvulsants, antipsychotics, antiparkinsonian agents, skeletal muscle relaxants, antihistamines, anticholinergic medications, and hypoglycemic agents. (Annals of Pharmacotherapy 2014 Jan., E-pub)

The authors conclude that the agents investigated do pose the potential to impair driving, but they note, “positive outcomes should not be underestimated. Medications improve or stabilize many medical conditions, which may also enhance the ability to drive. The risk-to-benefit ratio must be evaluated for each patient before prescribing.” Patient counseling and proper prescribing can help minimize risks, they suggest.

The authors also address the influence of alcohol on the investigated agents. Notably, alcohol should not be used in conjunction with benzodiazepines and all classes of antidepressants. Patients using non-BZD hypnotics and antihistamines should use alcohol in moderation (generally defined as one drink per day for women and two drinks per day for men).

Ahead, one of the authors, Amanda Hetland, reviews the findings and shares tips for prescribers.

The bulk of the agents associated with impaired driving are likely to be prescribed by neurologists, yet your publication notes that it is difficult to differentiate the contributions of medication versus those of the disease itself. Given this, are there general principles that prescribers can keep in mind?

Actually, the bulk of agents associated with impaired driving are not only likely to be prescribed by neurologists, but also psychiatrists, geriatricians and primary care physicians.

General principles for any practitioner who prescribes to older adults:

a) Try to avoid sedating CNS medications and use safer alternatives;

b) Try to reduce or minimize the number of drugs or polypharmacy when possible;

c) Be sure the primary care physician knows about any new drugs that are being added to the regimen;

d) Be sure to educate the patient and family regarding side effects;

e) Consider tapping the expertise of the pharmacist to review the medication regimen for side effects or to enhance education;

f) Be sure to check on medication compliance and assist the patient and family with advice to enhance compliance (e.g., supervision of medications, pillbox, etc.).

Are there any factors that may suggest an increased risk for driving impairment?

Literature on adults of all ages suggest that drivers who are aggressive, risk takers, anxious, depressed, or sedated may be at increased risk.

There are many medical conditions that put an older adult at risk and are too myriad to be listed here. However, some of the more common, age-associated ones are listed in Table 1.
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In terms of functional abilities, those tests that tap into vision, cognition, and motor skills are most highly correlated with driving impairment. Some of these are listed in Table 2.

What steps can be taken when providing a prescription to help protect patients?

The most important intervention is detailed patient counseling. Help our patients understand the risks, and in some circumstances advise that they not drive until they can better appreciate the impact of the new medication. Some patients will be highly susceptible to adverse CNS effects of medications, whereas others may never experience impairment in driving-related abilities.

Patients may need to make transportation arrangements during the initial titration period, and have family members or caregivers be alert for any changes in attention, psychomotor function, new-onset tremor, confusion, or the like. The pharmacokinetic profile of each medication will be both drug- and patient-specific, so it is difficult to determine how long this “titration period” will last.

Review of drug monographs and estimation of time to steady state can help anticipate when adverse effects should occur.

What are the clinical implications for treating patients with these drugs or with these conditions (counseling, etc.)?

The negative implications, of course, would include injury or death from a motor vehicle collision. It has been our goal to raise awareness of these consequences when recommending a pharmacologic agent. Obviously, the presence of a (potentially driver-impairing) PDI diagnosis should not preclude the prescription of a PDI medication when the benefit of that medication outweighs the risk. For example, patients with movement disorders may have trouble operating a motor vehicle and would technically be cautioned against adding a PDI medication on top of this condition. In addition, antiparkinsonian agents have some PDI side effects but can improve motor aspects of disease and should be prescribed when indicated. Thus, the beneficial implications of treatment should not be overshadowed.

The final endpoint should be patient counseling, but also the consideration of all options and how specific medications could impact the ability to drive. This is similar to medication selection for a patient with renal failure; the vigilant clinician might prescribe glimepiride in lieu of more dangerous options like metformin. In a driving safety scenario, one might avoid diphenhydramine for an older adult driver—a drug far too often prescribed in the elderly population—and recommend an agent such as loratadine for seasonal allergies.

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