Driving and Dementia Case Study

Review the following case study one section at a time, responding to the questions posed following the information provided. Expert opinion about how to respond to the case can be found at the end.

PART A: Case Information

Background

- Mr. G. is an 85 year old man living with his wife
- Non-smoker, 2 – 3 beer per day
- Past Medical History:
  - Osteoarthritis (neck, knees)
  - Lumbar spinal stenosis with radicular pain and weakness in feet
  - Mild Parkinson's disease X 1 year
  - Macular Degeneration & Glaucoma
  - Diabetes with peripheral neuropathy and neuropathic pain
    - poor diabetic control
  - HTN

Medications:

- Sinemet
- Oxybutinin (Ditropan)
- Nortryptilline and Gabapentin for neuropathic pain.
- Tylenol #3 PRN – takes 4 – 6 per day
- Glyburide and Insulin
- Oxazepam QHS PRN for sleep
- Adalat XL 120 mg OD

Physical Examination:

- Pulse 60 and BP 110/70 supine
- Pulse 60 and BP 80/50 standing. Denies postural lightheadedness but slightly unsteady when first standing. Does admit that on occasion he does get more "dizzy" and has to sit down.
- Mild restriction in neck turning
- Possible left upper quadrant visual field loss (borderline finding)
- Pain in knees with movement
- Decreased light touch and proprioception in feet
- Mild ankle weakness
- Failed 2 of 3 Ruler Drop Reaction Time Tests (Failed = dropped ruler)

Cognitive Examination:

- Somewhat slow in answering questions
- MMSE 25 / 30 (0/3 recall, problems with pentagon drawing)
- MOCA 19 / 30 (0/5 recall, problems with Trails, Cube drawing, Clock drawing)
- Trails A – 1 minute 10 seconds, 1 error
- Trails B – 5 minutes 20 seconds, 5 errors

Family Interview:

- Progressive mild decline in memory X 2 years
- No major impact on Function. Still able to bank, cook, shop and use TV remote. Some mild problems remembering to take medications.
- Wife feels patient is "a great driver and has never had accidents". Daughter cannot voice any specific concerns but seems worried.

PART A: Questions

1. Using the 10-Minute Office-Based Dementia and Driving Checklist, is the patient safe to drive at this time?
    - List any contraindications to driving.
2. What is the cognitive diagnosis?
3. What actions would you pursue with respect to driving?
    - Are there any potentially reversible factors?

PART B: Case Information

After reversing some factors…

- Mr. G. weaned himself off alcohol and oxazepam (now uses low dose trazadone sparingly). Adalat dose decreased and Nortryptilline discontinued with elimination of postural hypotension. Improved control of pain, diabetes, Parkinson's disease. He is no longer having any problems with function (e.g. medication use is normal)
- MMSE 27 / 30 (1/3 recall, problems with pentagon drawing improved)
- MOCA 25 / 30 (1/5 recall, mild problem with Clock drawing – spacing of numbers)
- Trails A – 40 seconds, 0 errors
- Trails B – 1 minutes 50 seconds, 1 error
- Visual fields found to be adequate for driving

PART B: Questions

1. Using the 10-Minute Office-Based Dementia and Driving Checklist, is the patient safe to drive at this time?
    - List any contraindications to driving.
2. What is the cognitive diagnosis?
3. What actions would you pursue with respect to driving?

PART C: Case Information

1 year later…

- Memory problems worse
- Some impact on high level IADLs – medication use
- MMSE 24 / 30 (0/3 recall, more problems with pentagon drawing)
- MOCA 20 / 30 (0/5 recall, more problems with Clock and Cube drawing)
- Trails A – 55 seconds, 0 errors
- Trails B – 2 minutes 50 seconds, 2 errors
- Appears cognitively slow again
- Family history unchanged

PART C: Questions

1. Using the 10-Minute Office-Based Dementia and Driving Checklist, is the patient safe to drive at this time?
    - List any contraindications to driving.
2. What is the cognitive diagnosis?
3. What actions would you pursue with respect to driving?

PART C: Further Information

- Passes – allowed to continue to drive.
- Initiate discussion regarding the inevitability of eventual driving cessation
- Arrange follow-up every 6 – 12 months regarding fitness-to-drive

PART D: Case Information

2 years later…

- Dementia has progressed despite aggressively addressing all reversible factors and attempting cholinesterase inhibitor therapy
- Having difficulty with several IADLs – medication use, banking, cooking and possibly TV remote use
- MMSE 19 / 30
- MOCA 15 / 30
- Trails A – 85 seconds, 1 error
- Trails B – 6 minutes 50 seconds, 6 errors
- Slow mentation is obvious
- Slow parkinsonian movements – can no longer catch ruler during Ruler Drop Reaction Time Test
- Wife is now expressing concerns regarding driving. She reports 2 near misses where patient almost struck a car and a pedestrian.

PART D: Questions

1. Using the 10-Minute Office-Based Dementia and Driving Checklist, is the patient safe to drive at this time?
    - List any contraindications to driving.
2. What is the cognitive diagnosis?
3. What actions would you pursue with respect to driving?

PART A: Suggested Physician Response

Address potentially reversible factors while asking patient to hold off driving.

- Alcohol use
- Control of Parkinson's disease
- Control of Diabetes
- Poor Pain control (e.g. knee movements)
- Drugs that can slow mentation and cause delirium
  - Sinemet, Oxybutinin (strong anticholinergic), Nortryptilline, Gabapentin, Oxazepam, Tylenol #3.
- Postural hypotension
- Vision and visual fields require formal assessment by an optometrist or ophthalmologist

PART B: Suggested Physician Response

- Mild Cognitive impairment (MCI) because only has one cognitive domain affected and no impact on function
- Appears to be OK to drive from a cognitive perspective.
- Decide if you need on-road testing due to physical limitations (i.e. can he physically operate a car safely)

PART C: Suggested Physician Response

- Mild Dementia – 2 domains progressively affected (memory and executive function) but only 1 IADL
  - Work-up consistent with mixed Alzheimer's and Vascular Dementia
- Likely needs On-Road testing if wishes to continue driving
  - This is particularly true if the slowness of mentation is the major concern.

PART D: Suggested Physician Response

- Moderate dementia - 2 or more IADLs affected due to cognition
- Patient is no longer safe to drive due to both physical and cognitive limitations
  - Ask him to stop driving immediately.
    - Family should be present to support patient and to insure that he does not drive.
  - Report to ministry of transportation as per regional regulations and process.
  - If you or the family are concerned that patient will still drive then disable car or remove car (a car in the driveway is a constant visual reminder that may precipitate driving).
- Monitor for effect of loss of driving privileges on mood and monitor for social isolation. Discuss transportation options with family.