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# Patients with Dementia Are Easily Distracted

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## Abstract

Mild cognitive impairment (MCI) is the middle ground between normal, age-appropriate memory impairment, and dementia. Whereas patients with MCI are able to cope with the memory deficit, those with dementia are not: Their memory impairment and other cognitive deficits are of sufficient magnitude to interfere with the patients' ability to cope independently with daily activities. In both MCI and dementia, there is evidence of declining cognitive functions from a previously higher level of functioning. In both the conditions, there is also an evidence of dysfunction in one or more cognitive domains. There are two subtypes of MCI depending on whether memory is predominantly affected: amnesic type and nonamnesic/behavioral type. Not all patients with MCI transition to dementia, some recover. In this case scenario, we present a 68-year-old man with MCI who lives with his wife. They are getting ready to host dinner. His wife asks him to vacuum the dining room while she runs an urgent errand. We describe how this simple task vacuuming a room ended in a catastrophe with the patient spending the night in jail and his wife hospitalized. We discuss what went wrong in the patient/wife interaction and how the catastrophic ending could have been avoided.

## Objectives

At the end of this case discussion readers will know the following:

The differences between mild cognitive impairment (MCI), normal aging, and dementia.

MCI is often a precursor of dementia and has an amnesic or nonamnesic/behavioral presentation. However, not all patients with MCI develop dementia, some even recover.

MCI is an opportunity to discuss with the patient various issues that may arise, should it progress to dementia such as preparing a will, transitioning from driver to passenger, and addressing various financial and legal issues including end-of-life issues and selecting someone to have power of attorney.

Patients with MCI should be regularly followed up to determine whether and when they will transition to dementia as this changes the level of care needed.

Patients with MCI are at an increased risk of triggering accidents because of their cognitive impairment and often impaired judgment.

It may be hazardous to leave patients with MCI alone, without supervision.

The importance of support groups, social media, and cameras when providing care to patients with MCI and dementias.

## Keywords

Alzheimer's/dementia, cognition, confusional states, anxiety, caregiving and management

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## Case Presentation

### Characters

- Archie, 68 years old, was diagnosed with MCI about 4 years ago. He retired from his job as a self-employed car mechanic about a year ago because he was no longer able to cope with the various demands of his job.

- Betsy, 64 years old, is Archie's wife. They live together and have been married for 41 years.

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## Scenario

It is Friday afternoon. Betsy and Archie have invited two couples to have dinner with them at home. Archie is puttering in the garage. Betsy is preparing the meal. She realizes that she is missing an ingredient and tells Archie that she has to go to the store to get it. She asks him to vacuum the dining room while she is gone. He agrees.

Archie fetches the vacuum cleaner, plugs it in, and turns it on. He notices that the motor is not running smoothly. So he shuts off the vacuum cleaner and goes to the garage to fetch his tool kit. He mumbles to himself:

I don't know how Betsy managed with the vacuum cleaner as it is, it is not working well. It shouldn't take me more than a few minutes to fix it. I know exactly what the problem is. She'll be very pleased.

A few minutes later he thinks that he has solved the problem and switches on the vacuum cleaner. Unfortunately, rather than sucking air in, the vacuum cleaner is blowing dust and debris all over the dining room and a thick layer of dust is settling on the plates, cutlery, glasses, and Betsy's favorite fine linen tablecloth. The salad and dessert lying uncovered on a small table by the window also now are covered with dust.

Archie starts removing the plates, glasses, and cutlery from the dining room table to the dishwasher. In the process, he drops a few plates and, being fine china, they shatter. He places the unbroken ones in the dishwasher but forgets to turn it on. He gets a broom and sweeps the broken plate pieces into a corner of the room. He returns to the dining room and puts the various parts of the vacuum cleaner on the dining room table.

In the process, he notices that the table is wobbly. He inspects the legs of the table and notices that one leg is loose because one of the screws anchoring it to the tabletop is missing. So he goes back to the garage. He can find neither the appropriate screws nor brackets so he decides to make his own brackets from pieces of wood he has in the garage.

Armed with pieces of wood, electric saw, screw driver, and screws, he goes back to the dining room. He proceeds to anchor the table to the leg but notices that the bracket he just added is protruding from under the table. Undeterred, he starts sawing it off. Unfortunately, he is not able to control the electric saw and saws through the tabletop. Part of the tabletop is now leaning to one side and the vacuum cleaner parts are all over the floor.

Betsy returns home. She cannot believe what she sees. The dining room table is destroyed, the vacuum cleaner is dismantled with bits and pieces all over the room, the salad and dessert are covered with a thick layer of dust, her fine linen tablecloth ruined, and her delicate china pulverized. She is very upset.

She reprimands Archie. Archie initially humbly accepts the criticism and apologizes, but as Betsy

persists, he soon retaliates and now a shouting match develops. It rapidly escalates and Archie hits Betsy on the head with a piece of wood he had in his hand. Betsy falls on the ground, unconscious, she has a large wound on her head and is bleeding profusely. Archie is mortified. He tries to stop the bleeding and revive his wife. He repeatedly says, he is sorry. The guests arrive and call the ambulance and the police. Archie is charged with domestic violence, handcuffed, and taken to the police station. He spends the night in jail.

## Case Analysis

### *Turning Points—What Went Wrong? Could It Have Been Avoided, Averted, or Defused?*

*Leaving Archie alone.* Archie has been diagnosed with MCI about 4 years ago and had to stop working as a car mechanic about a year ago because his cognitive impairment was interfering with his daily activities. It is therefore probable that his condition has transitioned, at least a year ago, from MCI to dementia when he had to retire from his employment because of his inability to cope with various work demands. His judgment therefore is impaired, and he should not be left unsupervised on his own, especially, if he has access to potentially hazardous tools.

It must be remembered that Archie recently had to give up a lifelong career in which he would diagnose and fix mechanical problems on a regular basis, and he likely carried that problem-solving spirit and inclination into his home life. Unfortunately, given his MCI or possible dementia, he is likely to put himself in situations where he is starting some "fixing" tasks that he cannot complete or from which he gets easily distracted. He also is at risk of getting involved in accidents because he is not able to anticipate or appreciate the hazards to which he is exposing himself. He therefore will need supervision in ways that perhaps someone less enterprising would.

*Could it have been avoided?* Betsy needed to take Archie with her or have someone stay with Archie until she returned. Most likely—unless Betsy had made some prior arrangements (see below)—having someone come to be with Archie is impractical in this situation, given that the trip was decided at the last minute. Archie, however, needed to have someone nearby to intervene in the event that a plan to fix something became a problem. Had Betsy been around when he was about to "fix" the vacuum cleaner, she would have insisted it neither be done in the dining room nor at that time. Similarly, she would have discouraged him from trying to fix the wobbly table. So, the best alternative would have been for Betsy to ask Archie with her to the shops. It must be emphasized that Betsy's request for Bill to accompany her must be framed in the context of her needing his help or even just his company and not that it needs to be done

because he is not safe to be left at home. Another option is to have recourse to other caregivers through support groups or social media. This is further discussed below, please see “Attending support groups—Developing social support network” and “Utilizing social media” sections.

Finally, strategically placed cameras throughout the house and the garage and connected, for instance, to her cellular phone would have enabled Betsy to monitor at all times Archie’s moves and contact him if necessary when for instance she saw him dismantling the vacuum cleaner. Monitoring cameras would allow the patient freedom of movement and yet reduce the potential of mishaps and accidents. With monitoring cameras, the caregiver does not have to be physically present with the patient all the time but is able to keep an eye on the patient all the time and can interact with him.

*Asking Archie to do the vacuuming.* It makes sense to give simple and concrete tasks to patients with cognitive impairment and even those with mild dementia because it helps them feel useful and can simultaneously offer assistance in small ways to the caregiver. Although it probably felt to Betsy like a safe enough bet to give Archie a simple vacuuming job, in this situation and in retrospect, it was risky given the fine dining table setting and the food that was already out. If Betsy was going to leave Archie at home, it probably would have been better to leave him in the garage to continue whatever activity he was already involved with. The safety of a patient with dementia staying unsupervised in a garage equipped with power tools needs to be addressed and will be discussed later.

*Could it have been avoided?* If Betsy was going to ask Archie to help her prepare dinner for guests, then giving him a safer activity would have been wise—folding the napkins while sitting in his chair, for example, or perhaps doing the vacuuming while she is home (realizing that she would have to regularly check in on him, even for something this simple). It is unlikely that, before this event, Betsy could have predicted that vacuuming the floor would result in broken china and inedible food. But given Archie’s enterprising spirit, giving him any task, perhaps, especially, any mechanical task, could lead to serious problems. Betsy would need to confront the fact—and probably will from this point on—that it may be impossible to predict just how awry a situation could develop with Archie, so all precautions have to be in place.

*Access to the garage.* Archie has full access to the garage and the tools when no one else is home. His garage has been fully stocked with tools for years, and he probably had a project of some kind in the works at any given time. Furthermore, it may be a place where he feels comfortable, where he is happily occupied not far from Betsy, where little is new, and where he feels he is doing something that matters.

Given that the diagnosis of MCI was made about 4 years ago, it is possible that Archie has transitioned from MCI to Alzheimer’s dementia or some other type of dementia. Archie therefore at present may no longer be safe on his own in the garage with unsupervised access to power tools. Given his limited cognitive abilities and the destructive possibilities of modern instruments, machinery, and tools, the garage represents untold possibilities for serious, and even fatal, accidents.

*Could it have been avoided?* Archie’s access to the garage and power tools should be limited and closely supervised. Monitoring cameras may avert some accidents. Like earlier scenarios in which we discussed the important but difficult task of determining whether it is safe for a patient with dementia to drive, cutting off access to the garage and its tools would mean for Archie a loss of independence, feeling of self-worth, and even identity: He essentially spent all his adult life in a garage.

So very much like withdrawing driving privileges, it is not a decision to be made lightly nor is it one, once made, that can be navigated easily. Archie is likely to resist, mightily, the idea that he cannot work with his own tools. Ingenious approaches would need to be used if Archie is to accept the decision to limit his access to the garage and tools.

It is also recommended that Archie be re-evaluated to determine whether his condition has deteriorated, and he now has dementia, whether it has stayed the same, or whether it has improved since the original diagnosis was made about 4 years ago.

*Reprimand is not a good idea, though it is understandable.* But relentless reprimand often backfires. It is understandable that, when faced with the havoc Betsy came home to, she would have much to say about what Archie was doing while she was gone. A filthy house and destroyed dining room table would certainly send most people, in most circumstances, into a barrage of questions, criticism, and possibly verbal and even physical retaliation.

In addition, dinner guests are expected to arrive any minute now, and Betsy has no idea how to explain what happened without negatively impacting the guests’ perceptions about Archie and also herself. Furthermore, dinner plans now have to be reconfigured. It is therefore not surprising that Betsy is unable to respond calmly and with foresight.

Even so, patients with cognitive impairment have a limited capacity for being able to process criticism, so it serves little purpose other than to fan the flames of the tension already present. Furthermore, relentless reprimand puts anyone on the defensive, especially someone who cannot quite make sense of the problem or his or her role in it. Betsy’s continued reprimand made it more difficult to defuse the situation and avoid a catastrophic ending.

*Could it have been avoided?* As much as she was able, Betsy needed to pull back from criticizing Archie. She

should look at the “big picture” not just this episode. She should recognize that it was not going to help the situation or prevent future similar ones if she kept criticizing Archie and blaming him. In the face of so much frustration and confusion and in the absence of rational thinking, Archie was bound to retaliate in a catastrophic way. Difficult or even impossible though it may seem, Betsy had to take charge of the situation in a more reasoned way without losing her calm.

Although very difficult, Betsy could have actually enlisted Archie’s help to systematically handle the situation. She could have said,

“Archie, I really need your help: could you please put all the tools and parts of the vacuum cleaner in this corner? I’ll phone the neighbors to find out if we can borrow their vacuum, alternatively I’ll ask our guests to bring their own vacuum cleaner.”

Betsy could then have systematically tackled the various chores. She could have given Archie very specific simple tasks to sort out the situation one step at a time. While supervising Archie, Betsy could have tackled other more sensitive tasks.

Betsy’s guests in all probability would have understood the awkwardness of the situation and would have probably enjoyed a takeaway meal instead of Betsy’s elaborate fine cuisine meal. In most of these get-togethers, it is mostly the company, not the food, that determines the success of the evening. In fact, it is very likely that in this particular case, the guests and Betsy will remember that evening for a very long time and will retell that story many times.

*Reprimand a patient who has a potential weapon in hand.* Reprimanding or criticizing someone who is upset, defensive, and unable to make sense of a high-tension situation when that person also has a potentially dangerous object in hand is unwise, no matter the context and particularly so if the patient has an impaired judgment and probably dementia. This may have been the first time Archie acted out physically, so Betsy may not have ever considered any object in Archie’s hand to be a potential weapon. Still Archie is unable to think through details, process past and current events, or predict possible outcomes. He is unable to rationalize his way through a complex situation. Unfortunately, this means that nearly any interaction with Archie could turn problematic or dangerous, especially, if he carries a potential weapon in his hand.

*Could it have been avoided?* Once Betsy saw that Archie had a piece of wood in his hand, redirecting her stunned anger into working with Archie to clean up the mess would have been wise. She might have told him that everything was OK and that they needed to work together to get things cleaned up. If she could muster it, she might have said that she appreciated that he was

trying to help make things look nice for their guests. “Here, I’ll take that piece of wood and the saw back to the garage; you bring the screws and other tools. Then we can clean up the dining room.” Caregivers have to confront the fact that cognitive impairment can make the most docile person aggressive and an aggressive person dangerous.

*Archie is jailed for domestic violence.* One cannot help but wonder the purpose of putting Archie in jail. It is bound to have a traumatic impact on Archie and his relationship with Betsy. The whole episode started by Archie trying to be helpful and wanting to mend the vacuum cleaner. He was trying to help his wife and now he finds himself in prison. This is only likely to fan any paranoid tendency he may have and his fears of a conspiracy when he feels that everyone is against him.

*Could it have been avoided?* Archie should have been taken to the emergency room to stay with his wife and observe her response to medical attention. Archie never meant to hurt his wife; in fact, it will be remembered, the entire episode started by Archie trying to help his wife. A much less satisfactory alternative would have been for one of the guests to stay with him at home. This however is bound to elicit paranoid delusions: “Where is my wife? What are they doing to my wife? Why can’t I be with her?”

*Free access to tools, especially power tools.* Given that Archie probably has progressed from mild cognitive impairment (MCI) to dementia, he needs a different level of care and supervision because now his judgment is impaired, and he probably has other cognitive deficits which increase the risk of an accident. Having free access to power tools therefore could be hazardous.

*Could it have been avoided?* The potential hazards of using power tools must be weighed against any potential benefit from allowing Archie to continue using them. Archie spent most of his life working with tools and therefore may be safe operating them provided he is not under stress, as has happened while he was trying to “help” Betsy. Furthermore, allowing him to “work” in his garage makes Archie feel “useful” and gives him a purpose in life. Rather than endlessly watching TV, working in the garage gives him a goal and maintains his mental stimulation. It also provides his caregiver some free time to attend to other responsibilities. A camera in the garage can be used to nonintrusively monitor his activities and ensure his safety.

When Archie’s condition progresses to the extent that he is no longer safe operating these tools, alternative safe “tools” such as toy tools may be needed. Another option would be to help Archie shift the emphasis of his interest and start for instance collecting car engines or car parts or even toy cars. Ideally, however, all this

should have been discussed much earlier when the diagnosis of MCI was first made or during one of the medical follow-up visits. These discussions are on par with discussions regarding gun ownership and transition from driver to passenger. These are discussed in other case studies.

*Regular follow-up in specialized clinic: Medical or psychiatric.* Most, but not all, patients diagnosed with MCI tend to deteriorate and develop dementia. As the disease gradually unfolds, the patient's capabilities and needs change. It is therefore important to ensure regular follow-up, may be yearly visits to map the patient's rate of deterioration and discuss with the relatives and loved ones the implications of these changes.

These follow-up visits are also good opportunities to review various issues including legal and end-of-life care issues. In this respect, it is useful to use scales to quantify the patient's degree of cognitive impairment, physical capabilities, and ability to carry on a number of tasks. Various scales are available to assess activities of daily living (ADL) and instrumental activities of daily living (IADL). The FAST Scale (Functional Assessment Staging Test) is often used as it also compares the patient's rate of deterioration with the anticipated rate and may alert clinicians to the possible presence of some other treatable, potentially reversible pathology that may be detrimentally affecting the patient's functional status (Lyketsos, 2016).

These regular visits also can be used to assess the impact of caring for Archie on Betsy's general condition and especially mental well-being while coping with the increasing demands imposed by Archie's gradually worsening condition.

*Could it have been avoided?* Had it been known that Archie's condition had progressed from MCI to mild dementia, various coping mechanisms would have been discussed with Betsy. Similarly, had Betsy known that now Archie's diagnosis is mild dementia, as opposed to MCI, she probably would not have asked Archie to vacuum the dining room, especially, if the room is in such a delicate and fragile state with the fine linen, china, and some food displayed. She also probably would have ascertained that Archie is safe with the various tools in the garage. The entire episode may have thus been avoided.

The success of coping with patients who have dementia is largely based on anticipating the changing needs and capabilities of the patient. Attending regular follow-up clinic visits is useful to ensure that the best possible care is provided to patient and also caregivers. The important and essential role of caregivers, especially family and live-in caregivers, is often underestimated and frequently taken for granted and overlooked. The health—physical, mental, emotional and social of the caregiver—is of paramount importance. Regular follow-up gives an opportunity to also assess the caregiver's condition.

*Attending support groups—Developing social support network.* Regular attendance to support groups is useful to caregivers as it helps them put in context their experiences caring for patients with dementia and allows them to exchange information and share their personal experiences. They no longer feel isolated, frustrated, and misunderstood. A spirit of camaraderie and mutual support usually develops. Support groups are available in most cities. The Area Agency on Aging and the Alzheimer's Association are good resources to help identify support groups.

*Could it have been avoided?* Had Betsy had a good social support group, she probably would have had no difficulty finding one or more volunteer to help getting the missing item from the store, staying with Archie while she had gone shopping or help straighten the dining room. Several times we have been impressed and indeed amazed at the resourcefulness and ingenuity of support groups and their willingness to help in a very concrete way.

In areas where support groups are not available, we urge caregivers to get together and develop their own support groups. Most Churches are usually very happy to provide space for these support groups. Some would even provide refreshments. Civic clubs could be good resources to develop a support group.

*Utilizing social media.* Caregivers are very often isolated, they have to fend for themselves and to rely mostly on their own very limited resources. Access to other people, and therefore potential help, tends to be limited. Even for those who attend support groups, the interaction is often limited.

The availability of social media, however, allows the immediate, almost instantaneous connection between Betsy and other caregivers. By placing a "Distress Call" or "I need help call" she may reach a large number of people who would have been willing to help her handle the tricky situation of having to leave Archie on his own while she went to the stores. These groups could be an extension of support groups, friends, and acquaintances.

*Could it have been avoided?* The situation could have been avoided had Betsy been able to tap into a large group of people sharing similar burdens by subscribing to social media and developing her own group of friends, acquaintances, and potential helpers.

## Case Discussion

### *The Diagnosis of MCI (Mild Neurocognitive Disorder)*

The distinction between MCI and dementia is clear-cut and depends on whether the cognitive deficit is of such magnitude that it interferes with the patient's previously well-established higher level of functioning and ability

to carry out daily activities (American Psychiatric Association, 2013; Budson & Solomon, 2016; Knopman et al., 2001; Seeley & Miller, 2015).

The diagnosis is MCI if the deficit does not interfere with the performance of one's daily activities, and the diagnosis is dementia if the cognitive deficit interferes with the performance of daily activities, provided the patient was able to perform them in the past, that is, before development of cognitive impairment. It must be emphasized that the diagnosis of dementia can only be entertained in the presence of a deterioration of cognitive functions from a previously higher level of functioning and preventing the patient from carrying out daily activities he could in the past (Peterson, 2011, 2016; Sperling et al., 2011)

However, the distinction between the cognitive deficit associated with normal aging and MCI is less clear (Peterson, 2011; Sperling et al., 2011). Accepted age-associated memory changes include a reduced ability to learn and recall new material and difficulties remembering the names of people and places. These changes, often referred to as "senior moments," are considered to be part of the aging process and not pathological, even though they may be embarrassing. Neuropsychological tests may be helpful to differentiate normal aging from MCI. Commonly used tests include the Montreal Cognitive Assessment and the Short Test of Mental Status.

The clinical diagnosis of MCI (Albert et al., 2016; American Psychiatric Association, 2013; Budson & Solomon, 2016; Jahn, 2013; McKhann et al., 2011; Lyketsos, 2016) is based on, first, evidence of mild or modest cognitive decline from a previously higher level of functioning as documented by the patient, knowledgeable informant(s), or neuropsychological testing. The patient may also exhibit cognitive deficits in other areas such as anomia, that is, difficulties finding the correct word and remembering the names of people.

Second, the magnitude of the cognitive impairment is not of sufficient magnitude to interfere with the performance of daily activities, even if the patient has to rely on various memory aids and compensatory strategies to satisfactorily complete these various activities. The patient nevertheless may have some difficulties and needs a longer time to plan and organize various activities such as planning a multicourse meal, a multistep trip with different means of transportation, or a vacation at several different resorts.

Third, the patient is fully awake, conscious, alert with an intact sensorium, that is, neither delirious nor acutely confused.

Fourth, other causes of cognitive deficits have been ruled out such as major depression, schizophrenia, cerebrovascular accidents, hypoxemia, metabolic disorders, and iatrogenic causes.

### *Amnestic Versus Nonamnestic MCI*

Two broad types of MCI are now recognized: amnestic MCI, when memory impairment is the main presenting

feature, and nonamnestic MCI, when memory is relatively preserved but language difficulties are obvious. In both instances, the associated cognitive deficit can be the result of deficit in a single cognitive domain or multiple domains. Hence, four different syndromic phenotypes have been described: Amnestic MCI single domain, Amnestic MCI multiple domains, Nonamnestic MCI single domain, and Nonamnestic MCI multiple domains (Budson & Solomon, 2016; Peterson, 2011, 2016; Rosenberg, 2016).

Patients with amnestic MCI are at an increased risk of developing Alzheimer's dementia: More than 50% of patients with amnestic MCI develop Alzheimer's disease within a 5-year period of the diagnosis of amnestic MCI (Lyketsos, 2016). Patients with MCI and a positive amyloid PET (positron emission tomography) scan are more likely to rapidly transition to Alzheimer's dementia. However, many patients, about 25% of the patients with amnestic MCI, do not have any evidence of brain pathology (Rosenberg, 2016).

Subjective memory complaints (SMC) is another term introduced to identify those who complain of memory deficits, have normal cognitive functions as per various neuropsychological tests administered but have biomarkers of Alzheimer's dementia (Rosenberg, 2016).

### *Management*

There is at present no Food and Drug Administration (FDA) approved medication for MCI (Budson & Solomon, 2016; Peterson, 2011, 2016; Rosenberg, 2016; Sadowsky & Galvin, 2012) although given the potential progression of MCI to Alzheimer's dementia, many clinicians opt to prescribe acetylcholinesterase inhibitors such as donepezil, rivastigmine, and galantamine. Memantine (N-methyl-D-aspartate [NMDA] receptor antagonist) is also sometimes prescribed in conjunction with an acetylcholinesterase inhibitor.

Although lifestyle changes are often recommended especially physical and mental exercises, smoking cessation, stress reduction, improving sleep, and a healthy nutritious well balanced diet, sufficient in vitamins and minerals, there is no definite proof of their beneficial effects. It is also important to control medical conditions that increase the risk of dementia, including hypertension, diabetes mellitus (type II), hyperlipidemias, cardiac arrhythmias, and obesity. Patients undergoing cognitive rehabilitation have shown some improvement in cognitive functions.

### *Prevalence of MCI and Transition to Alzheimer's Disease*

The overall prevalence of MCI in the general population in the United States is estimated to range from 10% to 20% in people older than 65 years (Peterson, 2011). The prevalence of amnestic MCI is estimated to be about 11% and that of the nonamnestic type is 4.9%. Patients



with MCI are at an increased risk of developing dementia, whereas in the United States, the incidence of dementia among the general population is 1% to 2%, among patients with MCI is 5% to 10% in community-based populations, and 10% to 15% among those followed up in specialized clinics, suggesting that the degree of cognitive impairment in these patients is already advanced and progressing.

The overall rate of transitioning from MCI to dementia is about 10% per year (Peterson, 2011). Several factors increase this risk including being a carrier of the apolipoprotein e4 allele and structural magnetic resonance imaging (MRI) imaging revealing a larger ventricular system and a reduction in the volume of the hippocampus below the 25th percentile for the patient's age and gender. Similarly, patients who have evidence of hypometabolism in the temporal and parietal regions of the brain as determined by <sup>18</sup>F-DG-PET ([<sup>18</sup>F] fluoro-2-deoxy-glucose PET) scans are at an increased risk of developing Alzheimer's disease. This risk has been estimated to be as high as 11-fold that of patients without these findings. Low levels of B-amyloid peptide 42 and elevated levels of tau protein increase the risk of transitioning from MCI to Alzheimer's disease. However, some data suggest that the rate of reversion from MCI to normal cognition can be as high as 25% to 30% (Peterson, 2011).

### An Opportunity to Plan for the Future

A diagnosis of MCI provides a good opportunity to make plans for the future should the patient's condition deteriorate to dementia. These discussions should be prefaced with the clear understanding that these various plans may not be needed if the patient's condition does not deteriorate or indeed improves but need to be addressed as early as possible while the patient is still able to indicate preferences. Thus reassured patients are more likely to collaborate and develop guidelines that may be used by caregivers when the patient is no longer in a position to make such decisions which include making a will, transitioning from driver to passenger, gun ownership, choosing a person to have power of attorney (durable and/or regular), and end-of-life issues. In this patient's case, discussions about possession and use of power tools could also have been discussed.

### Summary

1. MCI is the middle ground between normal aging and dementia.
2. The main difference between MCI and dementia is that in the latter the cognitive impairment is of such an extent that it interferes with the patient's daily activities.
3. In MCI, the cognitive impairment, although noticeable, is not of sufficient magnitude to interfere with the patient's daily activities, even

if the patient has to use memory aids and other strategies to overcome the cognitive deficit and maintain independence.

4. MCI is common, affecting 10% to 20% of the general population aged 65 years and older.
5. Although many patients with MCI transition to Alzheimer's disease or other dementias, several do not and some may revert to normal cognitive functions.
6. Two types of MCI are recognized: amnesic and nonamnesic, each can affect a single or multiple cognitive domains.
7. Safety is an important issue when caring for patients with MCI and dementia. Driving, gun ownership, and access to potentially hazardous power tools may have to be restricted or supervised.
8. Support groups are very useful: They provide camaraderie among caregivers and can help in times of crisis.
9. Social media could be useful to rapidly avoid or defuse a potentially hazardous situation.
10. Strategically placed surveillance cameras allow the caregiver to observe and monitor the patient without being in close physical proximity to the patient.

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### References

- Albert, M. S., DeKosky, S. T., Dickson, D., Dubois, B., Feldman, H. H., Fox, N.C., . . . Phelps, C.H. (2011). The diagnosis of mild cognitive impairment due to Alzheimer's disease: Recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers & Dementia*, 7, 270-279.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Budson, A. E., & Solomon, P. R. (2016). *Memory loss, Alzheimer's disease and dementia. A practical guide for clinicians* (2nd ed.). Philadelphia, PA: Ediburgh.
- Jahn, H. (2013). Memory loss in Alzheimer's disease. *Dialogues in Clinical Neuroscience*, 15, 445-454.
- Knopman, D. S., DeKosky, S. T., Cummings, J. L., Chuit, H., Corey-Bloom, J., Relkin, N., . . . Stevens, J. C. (2001). Practice parameter: Diagnosis of dementia (an evidence-based review). *Neurology*, 56, 1143-1153.

- Lyketsos, C. G. (2016). *Practical dementia care* (3rd ed., pp 1-19). New York, NY: Oxford University Press.
- McKhann, G. M., Knopman, D. S., Chertkow, H., Hyman, B. T., Jack, C.R., Jr., Kawas, C.H., . . . Phelps, C. H. (2011). The diagnosis of dementia due to Alzheimer's disease: Recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers & Dementia*, 7, 263-269.
- Peterson, R. (2011). Mild cognitive impairment. *The New England Journal of Medicine*, 364, 2227-2234.
- Peterson, R. (2016). Mild cognitive impairment. *Continuum: Lifelong Learning in Neurology*, 22, 404-418.
- Rosenberg, P. (2016). Prevention, early detection and mild cognitive impairment. In P. V. Rabins, C. G. Lyketsos, & C. D. Steele (Eds.), *Practical dementia care* (3rd ed.). New York, NY: Oxford University Press.
- Sadowsky, C. H., & Galvin, J. E. (2012). Guidelines for the management of cognitive and behavioral problems in dementia. *Journal of the American Board of Family Medicine*, 25, 350-366.
- Sperling, R. A., Aisen, P. S., Beckett, L. A., Bennett, D. A., Craft, S., Fagan, A. M., . . . Phelps, C.H. (2011). Toward defining the preclinical stages of Alzheimer's disease: Recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers & Dementia*, 7, 280-292.