Chapter 10
Alcohol and Other Substances

Be a victor of your good judgment and not a victim of your bad.

The good news is that light-to-moderate alcohol use does not appear to increase one's risk of dementia In fact, a review of over a hundred studies looking at the relationship of alcohol to cognition found that light to moderate alcohol use, particularly wine, reduces the risk of both Alzheimer's and vascular dementia [1]. Moderate alcohol consumption is typically defined as no more than one drink a day for women or no more than two drinks a day for men. Acknowledging some amount of variation, a drink is typically defined as 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of liquor. The same review [1] found that heavy drinking was associated with an increased risk of dementia.

It is important to note that these studies looked at the effects of drinking on the cognition of nondemented individuals. Once a dementia diagnosis is in place, we must consider other relevant factors. When combined with age and/or dementia, alcohol, even in low-to-moderate amounts has diverse potential hazards. Alcohol use increases the risks of depression, disinhibition, confusion, and falls for an older person and/or one with dementia. Therefore, a patient with dementia shouldn't start drinking alcohol or more alcohol than he or she did prior to their dementia diagnosis. In fact, since the brain of a patient with dementia is often exquisitely vulnerable to the amnestic effects of alcohol, we often recommend reducing or even ceasing alcohol intake (with medical supervision) once a diagnosis of dementia is made. Such changes should be made with medical supervision and conducted slowly in the case of substantial alcohol intake as abrupt discontinuation can cause serious withdrawal effects, including seizures and death.

Common sense rules:

- Dementia may increase the effects of alcohol.
- Alcohol withdrawal should be a gradual, supervised process.

A.M. Lipton and C.D. Marshall, *The Common Sense Guide to Dementia for Clinicians and Caregivers*, DOI 10.1007/978-1-4614-4163-2_10,

It is imperative to honestly inform a patient's physician of alcohol intake and any associated issues. In our experience, it is not unusual for patients to minimize or omit alcohol use when providing their medical history. In the outpatient setting, primary care physicians may prescribe sedatives (such as sleeping pills) or other medication which may interact with alcohol.

The consequences of an uninformed medical team are even greater in a hospital setting. An inpatient admission may be an abrupt introduction to sobriety for a patient with alcohol dependence. After a few days, signs of alcohol withdrawal may emerge, such as unstable vital signs (e.g., tachycardia, which is an increased heart rate), altered mental status, delirium tremens ("DTs," tremor, or "shakes"), or even seizures. Likewise, we may see an alcohol withdrawal syndrome after a planned or emergent surgery.

No matter how intelligent and educated your doctor is, alcohol withdrawal is not typically at the top of the differential diagnosis (list of possible diagnoses) for elderly patients with dementia who develop changes in their mental status. A physician's lack of awareness of significant alcohol intake could lead to severe consequences for a patient, including death or disability (e.g., brain injury due to unanticipated seizures or other neurological consequences of sudden alcohol withdrawal). The patient might also be unnecessarily subjected to futile testing or treatment, with attendant costs and other risks, in a search for other possibilities. The good news is that informed hospital medical staff can forego these unnecessary options and proactively utilize medications to avert withdrawal symptoms in your loved one. Therefore, please alert medical personnel regarding alcohol use on or before a patient's admission to a hospital or surgery clinic. As discussed in Chaps. 4 and 5, it may help keep the peace to put such sensitive information in writing and convey it discreetly.

Common sense rule: A patient's physician must be informed of alcohol intake.

How much alcohol is too much? The answer is highly individualized and depends on a given patient and circumstances. And, just as is the case for medications, alcohol intake and associated factors should be regularly reassessed by a physician and other caregivers. If alcohol use repeatedly causes problems, then it is probably too much. If Mom has dementia, but is doing well and enjoying her usual glass of wine with dinner, there may be no need to intervene. It is another story if Mom has an occasional glass of wine and begins to hallucinate every time she does so. Or, if she starts with a glass of wine at dinner and then drinks herself into a stupor (perhaps forgetting, maybe even more than once in an evening, that she has already had her usual glass of wine—or more).

Common sense rule: Patients with dementia can overdo alcohol due to forgetfulness, dependence, and/or other factors.

If the issue is merely forgetfulness, then alcohol in a moderate quantity might be administered and supervised by a caregiver, if it is important for a patient's quality of life. On the other hand, since alcohol may be contributing to such memory loss, a patient might be better off without it, especially if it won't be missed. Sometimes

a nonalcoholic beverage can be substituted without much fanfare. The best solution is usually to work in concert with medical supervision, weighing the risks and benefits for an individual patient.

Common sense rule: Regularly review the risks and benefits of alcohol for a person with dementia.

Common Sense Approach to Alcohol Dependence in Dementia

Let's say that alcohol is a problem for a loved one with dementia beyond just forgetting. In other words, he or she is knowingly and regularly drinking alcohol to excess. This is typically either a longstanding problem or an exacerbation of one. As noted above, it is a crucial issue to raise with the patient's doctor. What are the options in such a case? Medicare and/or other insurance programs may cover short-term inpatient detoxification, typically in a psychiatric unit. However, such coverage for outpatient substance abuse programs is limited. Outpatient substance abuse programs utilize educational tools, so a patient must have good memory and other cognitive functioning to benefit. One must also be able to engage in introspection to benefit from psychotherapy. Thus, from a practical standpoint, it is rare that a cognitively impaired individual would benefit from a formal alcohol treatment program.

We must also acknowledge similar limitations in trying to convince a loved one not to drink. This is an ineffective strategy in the cognitively intact individual who drinks in excess, so we are not going to pursue such a course for an individual with dementia. Instead, we recommend a practical approach to reducing problematic alcohol consumption.

If a patient can make his or her own decisions, then he or she must be involved in the medical plan of care. If a patient is no longer able to make medical decisions, the person with Medical Power of Attorney must be involved. Family dynamics, particularly within a family dealing with alcoholism, can be complicated. For example, we sometimes learn that a family member is supplying the alcohol for the cognitively impaired individual. Although a patient with dementia and alcohol dependence may lack the introspection necessary for successful psychotherapy, a psychiatrist or other therapist knowledgeable in addiction issues may be helpful for the family.

Common sense rule: Psychotherapy doesn't usually work for patients with significant dementia, but may help family caregivers.

Abrupt discontinuation of alcohol should be avoided due to risk of serious withdrawal symptoms, including seizures and death. Instead a slow taper as directed by a doctor is recommended. However, it is not just medical supervision that is important in this process. Monitoring, supervision, or even greater involvement by a family member is often crucial in helping a patient with dementia stop drinking. A family should work with a patient's doctors, particularly a psychiatrist or other

dementia specialist, as to the best strategy. Techniques may include diluting the alcohol with water or other nonalcoholic beverage. Another strategy is to switch to nonalcoholic beer and wine. If a patient is unable to make his or her own medical decisions and a doctor recommends that a family caregiver makes such substitutions, it is usually best to do so in a subtle and circumspect manner, just as you would in making any changes in the daily routine of a loved one with severe dementia.

Common sense rules:

- Alcohol cessation should be a gradual, supervised process (this bears repeating).
- Maintain a daily routine for the person with dementia.

Potential Prescription Drugs of Abuse in Dementia

Apropos of daily routine, good sleep hygiene represents a key component for everyone, including patients with dementia and their caregivers. Unfortunately, disruption of the sleep–wake cycle arises commonly in dementia. Studies indicate that sleep disturbance occurs in around a half to three-quarters of Alzheimer's patients [2, 3]. Sometimes such problems may be satisfactorily addressed with behavioral and environmental measures such as instituting or reinforcing regular bedtimes and wake-up times (see Chap. 13 for additional suggestions). Reviewing and adjusting medication, particularly the timing of administration, may help (see Chap. 8 for further details regarding these approaches). Some patients may benefit from a sleep study, particularly if Obstructive Sleep Apnea (OSA) is suspected due to significant snoring or periods of interrupted breathing during sleep. However, sometimes the addition of a medication (which may be referred to as a sleeping pill, sedative, or sleep aid) may be necessary to treat insomnia effectively.

In this section, we discuss the two classes of prescription medication that we have observed most often used to excess by patients with dementia: Opiates and Sedatives (including benzodiazepines).

Opiates are narcotic medications commonly prescribed for the treatment of severe pain. Examples include codeine and morphine. Under no circumstance do we recommend withholding adequate medication for acute or chronic pain syndromes. In fact, treating pain sufficiently may prevent and/or reduce agitation, irritability, depression, and similar symptoms in dementia. We therefore fully support their use when medically warranted. However, patients can become dependent on opiates, resulting in overutilization, which is the focus of this section.

Common sense rules:

- Good sleep hygiene and pain management may alleviate some dementia symptoms.
- Even prescription drugs may be overutilized.

A sedative is a medication that makes a person sleepy. All sleeping pills, including benzodiazepines, are sedatives, by definition. Opiates can also be sedating. Sleeping pills are generally taken before bedtime for insomnia, although some patients use them if they awaken during the night. We generally recommend that patients do not take such medications after midnight due to the residual morning grogginess that may result. Many other medications prescribed for many other reasons may have a side effect of sedation to which elderly patients may be especially vulnerable. Sometimes alcohol is used as a sleeping aid, but we don't recommend this, as alcohol actually reduces the amount of deep, dreaming sleep.

Benzodiazepines are a class of drugs commonly prescribed to treat anxiety and/or insomnia. They are also used to treat seizures (epilepsy). Although the term benzodiazepine may be unfamiliar, this category of medications includes commonly prescribed drugs such as alprazolam (trade name: Xanax), clonazepam (trade name: Klonopin), diazepam (trade name: Valium), lorazepam (trade name: Ativan), and temazepam (trade name: Restoril). As you can see, a medication with a scientific (generic) name ending in a suffix of -lam or -pam may be a benzodiazepine and, therefore, a sedative (as always, check with a patient's doctor and/or pharmacist, if you're not sure).

However, sometimes the calming effects of these medications lead a patient to use them in managing internal states of unrest, discomfort, or angst that accompanies memory loss. This is another common way people get into trouble with these medications. So, if your loved one with dementia is struggling, he or she may take sedatives or pain medication at regular intervals to get through the day. It is important to consider anxiety as a potential driving force for regular use of "as needed" medications. When patients are in distress, they reach for medications that will settle their mind and body. So if we want to identify underlying anxiety it can be addressed with both environmental intervention and medication that has minimal negative cognitive effects. This is discussed in greater detail in Part 3.

Common sense rules: Use sedating medications cautiously.

Opiates, benzodiazepines, and other classes of medication can cause disinhibition and confusion, particularly in elderly patients and those with dementia. Be mindful that your family member may not include these medications on a medication list due to taking them "as needed" rather than as a "standing dose" (e.g., twice daily at regular times and intervals). It is not unusual for us to learn during a painstaking medical history-taking process that, in addition to the drugs included on the medication listed provided to us, a new patient also takes a sedative a couple times a day along or a sleeping pill at night—or both. It is much better and easier to have this information up front.

Sedatives have a withdrawal syndrome similar to alcohol and any discontinuation should likewise be gradual. Such gradual withdrawal with medical supervision is a good rule to follow for any substance that affects the brain, especially for geriatric patients. This includes opiates, which have their own withdrawal syndrome. Just as we "start low and go slow" with neuropsychiatric medications, particularly in the elderly, it is also prudent to taper off slowly.

Common sense rule: Medication withdrawal should be a gradual, supervised process.

Keep in mind that a patient may see a primary care physician and multiple specialists. Unfortunately, this creates opportunities for miscommunication and duplication of medication. For example, Dad may receive a prescription for a "nerve pill" (sedative) from his cardiologist and one for a sleeping pill (another sedative) from his family doctor. Although specialists typically communicate with the referring or primary physician, it is quite possible that not all of a patient's physicians communicate with one another or that every prescription change is relayed even to a patient's general practitioner. Therefore, a wise caregiver keeps track of medications and helps keep a patient's physicians informed of these as well (which may be easily done by maintaining an accurate and up-to-date medication list). In addition to the challenges of fragmented communication, Dad's memory issues may impair his ability to keep an accurate medication list and/or report pertinent changes to his physicians. This leads to risk of physician overprescribing or medication duplication.

Common sense rule: A medication list helps avoid drug duplication.

As is the case for alcohol, several common factors can lead to overuse of medication in dementia, especially opiates and sedatives. Any patient (with or without dementia) may become dependent on opiates and/or sedatives. However, patients with dementia may use opiates, sedatives, and/or other medications to excess purely due to forgetfulness. Some patients who have previously used opiates and sedatives to manage specific pain, anxiety and sleep problems may begin to use them to treat other uncomfortable psychological states that can accompany dementia. In addition, a patient may be unknowingly prescribed duplicate or similar medication.

Overutilization can apply to any medication. The only way to know for sure is to monitor the situation. Check to see if your loved one has gone off course and is taking medication more times a day than prescribed. You can view the physician's original instructions by reading the prescription bottle label. You can check the date and amount supplied, the amount to be taken daily, and count any remaining pills to see if a patient seems to be taking too many or not enough.

Never underestimate how even mild memory loss can greatly impair one's ability to take medication correctly. In addition to remembering to take the medication on schedule, a patient has to remember which drugs have already been taken each day to avoid double- or greater overdosing. A weekly pillbox may help diminish this possibility (see also Chap. 6). When in doubt, a patient can check the pillbox to help recall whether or not medications were taken. However, this strategy doesn't work for someone with dementia who can't remember what day of the week it is! Such an individual needs more help and supervision than merely filling a weekly pillbox with. A reminder phone call may be effective for some. Alarmed pillboxes/dispensers are often too complicated and novel for our patients with dementia to learn to use. Unfortunately, a problem with sedatives and opiates is that they may be prescribed on a PRN or "as needed" basis and are therefore not included in a patient's pillbox. For example, a patient might keep a bottle of sleeping pills on the

nightstand for convenience. Or, a patient may react to each individual symptom by taking medications instead of sticking with a prescribed treatment plan. In such cases, it may be helpful to instead use a separate pillbox just for the PRN/as needed medications—and perhaps putting this on the nightstand instead of the entire bottle.

Common sense rules:

- Memory functioning is critical for correct medication administration.
- Monitor medication administration and increase supervision as needed.

Bowel Products

It is not uncommon for our geriatric patients to obsess over their bowels, expecting at least one "movement" a day, and considering anything short of that as pathological. Unfortunately, we also commonly see misuse or abuse of medications such as antidiarrheals, laxatives, and/or stool softeners adversely impacting quality of life. Such overutilization may reflect longstanding habits. It might also represent new behavior (or exacerbation of an old practice) due to the effects of medication and/or cognitive impairment, especially an underlying disturbance in memory and/or executive functioning (such as judgment and problem-solving).

A vicious cycle may commence in which a patient self-administers an antidiarrheal medication after an episode of diarrhea, then becomes constipated and take a stool softener and/or laxative. Depending on the patient's level of cognitive impairment and other psychological issues, he or she may continue to chase after each symptom (diarrhea or constipation) and lose sight of the big picture. Such repetitious and circular use of these remedies may create dependence on such medications, impede resumption of normal gastrointestinal (GI) functioning, and compound GI side effects of other illnesses and medications.

Monitoring the bowel regimen of a loved one who is elderly and/or has dementia may be exceedingly beneficial. Geriatric patients often have bowel problems and concerns. Cognitive and behavioral problems may result in overusage and the drug cascade noted above. And, of particular note, prescription medications for dementia may also affect GI functioning. Mere reliance on someone's report of their bowel regimen may not be enough, particularly if he or she has memory loss for recent events or a vested interest in protecting lifestyle habits. You may need to verify the information provided. If you live with your loved one with dementia, it may facilitate determination of bowel frequency. If you don't, you might stay with them for a few days (including overnight) and try to obtain a fuller picture. Of course, you could have your relative stay with you, but an individual's usual environment and routine, including diet and exercise, typically provides more accurate information. If your relative is in a supervised living situation, you may be able to have nursing staff record this information (a doctor's order may be required). (A week or two of such notation may suffice for this purpose unless any problems emerge).

If you are a primary caregiver, know and review all medications (including those kept in kitchen, bedroom, or bathroom drawers, medication chests, pillboxes, cabinets, etc.), especially in response to any new GI issue. Remember that even patients living in supervised communities may be purchasing laxatives and the like over-the-counter.

Bowel frequency (how often a patient has bowel movements) varies for individuals based on a number of factors. If a patient is having a bowel movement at least every other day, this is quite likely sufficient. If your loved one is not having bowel movements at least every other day, check with a patient's doctor. Less often may call for dietary or medical intervention as might other significant and persistent changes in bowel frequency (e.g., someone who used to have 1–2 bowel movements daily and now has 5 every day).

Once again, diet and exercise are cornerstones of treatment and prevention. A patient's doctor may recommend encouraging hydration, high-fiber foods (including eating fruits and vegetables rather than drinking juice which contains little fiber), fiber and similar supplements, exercise, and medications (over-the-counter and/or prescription),where indicated. Sometimes patients with dementia forget to eat or drink. Therefore, you may wish to place appropriate food and beverage in plain sight (rather than behind the opaque refrigerator door where it may be forgotten). Remember to ask about potential GI side effects whenever any new medication is prescribed. As a caregiver, you may find it helpful to have stool softeners, laxatives, or even enemas on hand in case you may need to administer a remedy to a loved one (rather than having to run out to a pharmacy in the middle of the night). To avoid over- or underutilization, we recommend that a caregiver dispense these rather than relying on a patient with dementia to correctly self-administer. We often share with our patients and families the helpful adage: "If you don't move, your bowels won't move." Prevention and treatment of bowel irregularity usually work quite well. Avoidance does not.

Common sense rule: Patients with dementia can overdo medications due to forgetfulness, dependence, and/or other factors.

Illicit Drugs

We do not commonly encounter illegal substance abuse in our (mostly elderly) patients with dementia, however such drugs can cause or contribute to significant cognitive, behavioral, and other neuropsychiatric problems. In such cases, we recommend working with a specialist, an addiction specialist, if warranted. The same general principles apply as do for alcohol or overutilization of prescription drugs: A patient with dementia may be extremely susceptible to adverse effects of any substance, a patient's physician needs to be made aware of use or abuse of any drug (particularly when cognitive, behavioral, and other neuropsychiatric symptoms are being evaluated), and abrupt withdrawal without medical care may be dangerous or even deadly. This topic may become increasingly important in future generations in which such legally prohibited products have been more commonly used.

Medications Adverse to Memory

Many drugs can also interfere with memory (and cognitive enhancers), often by reducing available acetylcholine (i.e., the opposite of what the cognitive enhancing cholinesterase inhibitors do—see Chap. 8). Anticholinergic medications include drugs used to treat bladder incontinence, insomnia, and gastric reflux. This is by no means an exhaustive list of anticholinergic medication, and many other types of drugs, including other sedatives (sleep medications) and some antidepressants (especially the so-called "tricyclic antidepressants," like amitriptyline and nortriptyline), can also interfere with memory. Check with a patient's doctor and, preferably, a prescribing physician or specialist. For patients with dementia, it is crucial to work with a specialist or other doctor to identify any drugs that may be worsening the condition and avoiding or minimizing their use whenever possible.

Diphenhydramine (Trade name: Benadryl), either alone or in combination with another ingredient, represents the most common over-the-counter drug contributing to memory problems in our patients. Combination medications containing diphenhydramine often carry a "PM" designation in the trade name, such as Tylenol PM (which is acetaminophen + diphenhydramine) or Motrin PM (ibuprofen + diphenhydramine) or Advil PM (also ibuprofen + diphenhydramine). Diphenhydramine can also cause or exacerbate constipation and urinary retention for some people.

Patients over 65 are exquisitely sensitive to these effects. We often see some improvement in memory after stopping a medication containing diphenhydramine in our elderly patients. Even though some of these drugs can be obtained without a prescription, they should be listed on a patient's medication list. Dementia specialists avoid use of these products in dementia, whenever possible, due to their risk of causing or exacerbating memory loss or delirium. Delirium is a medical term used to describe altered mental status, fluctuating cognition, and confusion.

If patients take any of these products for pain, we recommend that they continue to take the pain ingredient without the diphenydramine (e.g., taking acetaminophen or brand name Tylenol alone rather than Tylenol PM).

If a patient with dementia has troubling insomnia after discontinuation of diphenydramine, a mild prescription sleep aid in small doses may be a better option and can be titrated up to higher doses as necessary. Trazodone (Trade name: Desyrel) is a sedative that can be initiated at a small dose of 50 mg and increased in increments of 25 mg. Side effects tend to be mild but may include dizziness and dry mouth. Priapism (prolonged erection) is a rare complication and less likely to occur in elderly men than younger men. Mirtazapine (Trade name: Remeron) is an antidepressant that also acts as a sedative. It can be started and titrated in increments of 7.5 mg. Side effects include increased appetite and weight gain, which may be advantageous in some elderly patients and those with dementia, who experience anorexia. Effects of increased weight and appetite actually lessen at higher doses of mirtazapine. Both trazodone and mirtazapine are available in generic form. Many other options exist and we strongly recommend working with a geriatric psychiatrist or other specialist to find the best solution targeting problematic symptoms (such as insomnia) that will avoid creating or worsening other ones (such as memory loss).

Is a Drug Exacerbating Dementia Symptoms?

Families frequently ask us whether a loved one with dementia has become more sedated, agitated, dizzy, hallucinating, etc., due to medication. Timing probably represents the most critical factor here. If a symptom starts or worsens in the hours or days after starting a new medication (or increasing the dosage of a medication), this suggests a temporal association. Such temporal relationships may also apply for alcohol or medications used intermittently. For example, a patient may be sedated on certain days of the week and careful review of medications and caregiver observation demonstrates that such somnolence occurs only in the mornings after the patient has had a sleeping pill at night. Or, a person with dementia may be hallucinating only on nights after having a glass of wine with dinner. Check with a patient's physician as to whether the two (the drug and the symptom) are related.

As noted in Chap. 8, even medications meant to "enhance" cognition can have side effects such as increased confusion. Associated symptoms (e.g., runny nose, sore throat, or cloudy urine), might also help in determining a cause, especially if it's been a while since any medication changes. For example, a patient might have an infection causing the symptom or symptoms.

Work with a patient's doctor to get to the root of the problem. As always, any necessary medication changes should be made cautiously and incrementally unless a significant medical rationale indicates otherwise. Any serious new medical condition deserves emergency evaluation.

Aluminum ≠ Alzheimer's

Finally, we would like to make a mention of aluminum. Although aluminum and Alzheimer's may sound like they should belong together (perhaps due to alliteration), scientific research has shown that aluminum does not cause AD [4], nor has it been associated with other types of dementia.

Summary

Alcohol in moderation is associated with reduced risk of dementia. Age and dementia increase susceptibility to drugs affecting brain function, including alcohol and medications. Opiates and sedatives represent two common classes of prescription medication on which patients may become dependent. Bowel products are also commonly overutilized. Many medications, but particularly anticholinergic agents like diphenhydramine, may impair memory. Temporal association may help identify whether and which drug/s may cause or contribute to a patient's symptoms.

Common Sense Rules

- Dementia may increase the effects of alcohol.
- Alcohol and drug withdrawal should be a gradual, supervised process.
- A patient's physician must be informed of alcohol intake.
- Regularly review the risks and benefits of alcohol and medications for a person with dementia.
- Patients with dementia can overdo alcohol or drugs due to forgetfulness, dependence, and/or other factors.
- Psychotherapy doesn't usually work for patients with significant dementia, but may help family caregivers.
- Maintain a daily routine for the person with dementia.
- Good sleep hygiene and pain management may alleviate some dementia symptoms.
- Even prescription drugs may be overutilized.
- Use sedating medications cautiously.
- A medication list helps avoid drug duplication.
- Memory functioning is critical for correct medication administration.
- Monitor medication administration and increase supervision as needed.

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