

In-service Training

Medications in Dementia Care

Length: 1 hour

Goals: By the end of this training session, the participant will be able to:

- ☞ Describe the approaches to treating dementia using medications.
- ☞ Identify and describe potential side effects of antipsychotic medications.
- ☞ Describe the purpose of using antipsychotic medications in dementia management.
- ☞ Describe the purpose of using Aricept, Cognex and Exelon in dementia management.

Suggestions: For something different, see if your pharmacy will send someone to provide this in-service to your staff. They will often do this at no cost.

Medications in Dementia Care

There is no magic pill. No currently available medication will “cure” dementia. However, medications can be very helpful in the management of behaviors and agitation. Some newer medications can even help to improve cognition.

Strategies for Medical Management Alzheimer's Disease/Dementia

Prevention

The ideal approach to deal with any disease is to prevent it altogether, for example, with a vaccine. Since the causes of Alzheimer's disease are not known at this time, it is difficult to arrive at such a simple solution. However, as understanding of risk factors grows, there may be ways of reducing personal risk for the disease that ultimately prevent the onset of the Alzheimer's disease.

Delay the onset

If the disease cannot be prevented, the next best approach is to delay its symptoms for five or ten years. Since most people with Alzheimer's disease are elderly, delaying the disease might result in their death from other common causes. It has been estimated that if Alzheimer's disease could be postponed, in effect, for just five years, then the incidence could be cut by one-third.

Slow down progression

After early symptoms of the disease develop, the goal then is to maintain individuals at their highest possible level of functioning. Stopping or slowing down the usual advance of the disease could theoretically enable individuals to remain independent and living in their own homes with minimal supports. Drugs currently approved and in testing phases aim to accomplish this goal but have thus far fallen short of expectations.

Treat primary symptoms

If none of the above steps can be accomplished, the next best approach is to improve memory and other brain functions impaired by Alzheimer's disease. By treating these symptoms, there is a hope of slowing down progression too. Again, current drugs and experimental drugs are directed toward this goal but have thus far fallen short of expectations for dramatic benefits.

Treat secondary symptoms

If the cognitive symptoms of Alzheimer's disease cannot be successfully treated, the next best approach is to treat behavioral symptoms often associated with the disease: insomnia, agitation, hallucinations, delusions, etc. A variety of behavioral and pharmacologic approaches aim to alleviate these symptoms.

Antipsychotics

Antipsychotic medications first became available in the 1950s, with additional medications in the class in the following decades. Antipsychotic medications are sometimes prescribed when they shouldn't be. They were previously referred to as major tranquilizers, and were given to persons to essentially sedate them.

Psychotic Symptoms

Antipsychotics are used to manage the following secondary symptoms when other "nonmedical" interventions are not effective:

Hallucinations

Hallucinations are false sensory perceptions, these is usually exhibited as hearing voices or seeing things that are not really there. The resident actually hears these voices, they are not "figments of the imagination."

Delusions

Delusions are false beliefs or ideas. Paranoid delusions are common, the resident may believe that someone is planning to harm her, for example. No amount of rationalizing or reasoning will "talk the resident out of" the delusion.

Disorganized behavior

Seen when the person becomes involved in bizarre or socially inappropriate behaviors. For example: undressing in public, screaming in public, collecting garbage, etc.

Aggression and Agitation

If the resident displays aggressive behaviors or agitation which are not related to a physical problem (such as pain), antipsychotics may be indicated to help reduce the aggression and/or agitation.

Two Types of Antipsychotics

There are two groups of antipsychotics: traditional (older) antipsychotics, and atypical antipsychotics. The traditional antipsychotics have been in use for several decades and are associated with increased side effects. The atypical antipsychotics have recently (beginning in 1990) become available, and are associated with increased benefits (affect on negative symptoms) and less side effects.

Typical Antipsychotics

Increased incidence and severity of side effects.

Drugs included in this group:

Haldol (haloperidol)
Thorazine (chlorpromazine)
Mellaril (thioridazine)*
Serentil (mesoridazine)*
Stelzine (trifluoperazine)
Prolixin, Permitil (fluphenazine)
Trilafon (perphenazine)
Navane (thiothixene)
Loxitane (loxapine)
Moban, Lidone (molindone)
Orap (pimozide)
Side Effects

Atypical Antipsychotics

Safer (generally) side effect profile

Drugs included in this group:

Clozaril (clozapine)
Risperdal (risperidone)
Zyprexa (olanzapine)
Seroquel (quetiapine)

These medications are more expensive than the traditional antipsychotics.

* According to the FDA, thioridazine and mesoridazine should only be used when less potentially dangerous medications have been attempted. Speak to the physician for more information.

Side Effects of Antipsychotic Medications

Although antipsychotic medications can have a powerful benefit in the management of dementia, they carry significant side effects (especially the traditional antipsychotics). All residents taking antipsychotics should be closely observed for the following side effects, and if observed they should be reported immediately to the physician. These side effects are sometimes referred to as extrapyramidal symptoms (EPS).

Parkinsonian Syndrome

Usually occurs after a few weeks of taking an antipsychotic medication. This resembles Parkinson's disease. Including, tremors (particularly in the arms), slowness of movement, absence of facial expression, and shuffling gait. Occurs in up to 1/3 of patients taking antipsychotic medications.

Restlessness and difficulty sitting still.

Problematic in 10-20% of persons taking antipsychotic medications.

Tardive Dyskinesia

One of the most dreaded side effects of antipsychotic medications, tardive dyskinesia (TD) usually develops after a year or more of treatment with the older antipsychotic medications. TD is characterized by involuntary movements of the head, neck, and extremities. The resident may exhibit "pill rolling." Contact the physician immediately.

Neuroleptic Malignant Syndrome

An unusual, but life-threatening side effect of antipsychotics. Characterized by rigidity, high fever, rapid pulse, labored breathing, and sweating. This is an emergency, if it happens call 911.

Consult the physician, pharmacist, or a medication handbook for other side effects associated with particular medications.

Managing the Side Effects

In the past, the physician would prescribe side effect medications to minimize and prevent the previously listed side effects, and this option is still available and in practice. The medications used to manage the side effects include:

- ☞ Cogentin
- ☞ Artane
- ☞ Akineton
- ☞ Symmetrel
- ☞ Parlodel

With the availability of the atypical antipsychotic medications, physicians and residents have a second option for managing the side effects of antipsychotics medications. Rather than (or perhaps in addition to) taking a side effects medication, the resident could switch from a traditional antipsychotic to perhaps Clozaril, Risperdal, or Zyprexa.

The drawback to this solution is the expense. The traditional antipsychotics, which are usually available generic, are significantly less expensive. Therefore, based on finances, insurance, etc., the resident's access to an atypical antipsychotic may be limited.

Cholinesterase Inhibitors

The following is adapted from "The Growing Challenge of Alzheimer's Disease in Residential Settings" a handout available from the Alzheimer's Disease Education and Referral (ADEAR) Center (a service of the National Institute on Aging) at www.alzheimer's.org.

The cholinesterase inhibitors have been an exciting addition to the medical management of Alzheimer's related dementia. These medications are indicated specifically for the management of mild to moderate Alzheimer's disease, unlike the antipsychotics, which are used in all types of dementia.

These medications are given to improve the cognition of the resident with Alzheimer's disease. They do not, however, reverse the degeneration of brain cells caused by Alzheimer's, so they are not a cure. These medication allow the brain cells that are still alive to function better by adjusting chemicals in the brain.

Cognex (tacrine)

Tacrine was the first of only three drugs currently approved for treatment of Alzheimer's disease. The Food and Drug Administration (FDA) approved tacrine largely because a 30-week study showed that high doses improve cognition in people with mild to moderate Alzheimer's disease. But since its approval, clinical experience has been disappointing. Depending on the study, tacrine helps only 20 to 40 percent of those who take it. At this point, doctors cannot predict who will respond to tacrine, to what extent, and for how long. Tacrine may help somewhat, but only for a minority of people with Alzheimer's disease.

Tacrine has significant side effects, including nausea and vomiting. But the one that has caused the most concern is the possibility of liver damage. Tacrine substantially increases levels of a liver enzyme to three to five times normal levels about six weeks into treatment. The long-term effects of this rise remain unclear, but doctors prescribing tacrine generally advise blood tests to assess liver function every two weeks, with a reduction in dose if levels rise beyond about five times normal. The drug costs about \$125 a month. Tacrine may be cost-effective for the minority of people who respond to it, but because of its limited effectiveness and side effects, it has fallen out of favor among most physicians.

Aricept (donepezil)

The FDA approved the cholinesterase inhibitor, donepezil or Aricept, in 1996. This drug is better targeted than tacrine. It affects only acetylcholine in the brain, preventing its breakdown, while tacrine affects related compounds throughout the body. Donepezil's more targeted action means fewer side effects. Like tacrine, donepezil's possible side effects include nausea, vomiting, and diarrhea. Unlike tacrine, however, donepezil does not cause liver enzyme abnormalities so users need not have regular liver-function tests. In addition, donepezil is taken only once a day whereas tacrine must be taken four times a day. Like tacrine, donepezil does not work for everyone who uses it. Clinical trials showed that almost half of persons taking donepezil showed improvement or stability in working memory over a period of several months. Although the long-term effects of the drug are not fully known, it may slow down the progression of the disease in some cases. Donepezil costs about \$125 monthly and is manufactured by Eisai, Inc., and Pfizer, Inc.

Exelon (rivastigmine)

Rivastigmine or Exelon received approval in 2000. The drug has already been approved in over 40 other countries. Like the other drugs already approved for the treatment of Alzheimer's disease, this drug also affects only acetylcholine in the brain, preventing its breakdown, which in turn helps memory and other brain functions.

This particular drug is administered twice daily in pill form. Instructions about dosaging will be included in the insert package if and when the drug is finally approved. Studies have shown that both the benefits and side effects of rivastigmine are associated with increasing dosages so careful monitoring is required. Side effects are mainly gastrointestinal in nature. In clinical trials, a majority of persons taking the drug at the maximum dosage showed improvement or stability in recent memory over a period of several months. Like donepezil, the long-term effects of rivastigmine are unknown but it is believed to slow down the progression of Alzheimer's disease in some cases. Rivastigmine is manufactured by Novartis.

Other Treatments

Many other cholinesterase inhibitors are now in various stages of development. Meanwhile, several other approaches are under investigation:

NSAIDs

Some years ago, researchers noticed that people with severe arthritis have strikingly low rates of AD. Treatment of arthritis involves large doses of medications known as non-steroidal anti-inflammatory drugs (NSAIDs). These drugs include such common, over-the-counter medications as aspirin, ibuprofen (Motrin, Advil), and naproxen (Naprosyn), plus many prescription drugs--but not acetaminophen (Tylenol). Meanwhile, researchers have discovered that inflammation of brain tissue may play a key role in the development of neurofibrillary tangles and beta-amyloid plaques, the anatomical hallmarks of AD. These observations suggest that NSAIDs might treat, prevent, or delay the onset of AD. The main problem with NSAIDs is that they carry a significant risk of adverse effects. Newer drugs for treating arthritis known as COX-2 inhibitors have overcome this obstacle but their benefits in treating or preventing AD have not yet been proven.

Antioxidants

Daily intake of 2000 International Units vitamin E showed some slowed progression among a group of 350 persons with AD. Vitamin E is now being tested in a nationwide Memory Study to find out if it may actually delay the onset of the disease.

Estrogen

Growing evidence suggests that estrogen-replacement therapy for postmenopausal women may protect brain cells from AD. Again, several retrospective studies show that women who have taken estrogen seem to be at a lowered risk for AD than women who have not taken estrogen. A large study known as The Women's Health Initiative is currently exploring this possibility in depth. Moreover, another study is examining the effects of estrogen among women who already have AD. The "Estrogen and Alzheimer's Disease" fact sheet available through ADEAR (800-438-4380) is a good resource for further information.

Alternative medicine

Natural agents and food supplements such as ginkgo biloba have been touted as treatments for AD and related dementias but there is little scientific credence to such claims. Although these remedies have been used in Asian countries for centuries, they are just beginning to be closely scrutinized by Western medicine. The National Center for Complementary and Alternative Medicine is charged with investigating such substances

since they currently fall outside the jurisdiction of the FDA. This Center is likely to launch a large scale study of ginkgo biloba beginning in 2000. In the meantime, caution must be exercised in using these unproven remedies. The "Ginkgo Biloba" fact sheet available through ADEAR (800-438-4380) is a good source of information.

Summary of Medications in Dementia Care

Although no medication has "cured" dementia, and perhaps none ever will, there have been some exciting improvements to the options available to the physician and resident. The atypical antipsychotics and Aricept are definite improvements compared to the standard medications regimens of the past 30-40 years. And the addition of medications like Cognex and Aricept are providing the new benefit of managing the cognitive deficits not just the manifestations of dementia.

Quiz

MEDICATIONS IN DEMENTIA

True and False

1. T F Some medications are able to cure dementia.
2. T F Two groups of antipsychotics are available, the traditional and atypical antipsychotics.
3. T F Antipsychotics can manage hallucinations, delusions, aggression, and some behaviors.
4. T F Antipsychotics can be over-used.

Multiple Choice

5. Which of the following is not a benefit of the atypical antipsychotics?
 - a. Better effect than the traditional antipsychotics.
 - b. Less side effects.
 - c. Cheaper than the traditional antipsychotics.
6. Which of the following is not an atypical antipsychotics?
 - a. Mellaril
 - b. Zyprexa
 - c. Risperdal
 - d. Clozaril
7. The side effects associated with antipsychotics include
 - a. Tremors
 - b. Difficulty sitting still
 - c. Abnormal tongue and lip movements
 - d. All of the above
8. Which of the following is not true about Aricept
 - a. It is given to improve cognitive function
 - b. It has fewer side effects than Cognex
 - c. It can cure some dementias
 - d. It is indicated for early to mid-stage Alzheimer's disease

Bibliography

Medications in Dementia Care

Information in this section, in whole or in part, was obtained from the following resources.

Alzheimer's Association. 2001. *Treatment Options*. Alzheimer's Association. Can be obtained at www.alz.org.

Edwards, Keith. 2000. *Therapeutic Approaches to AD: The Paradigm Shifts*. Medscape. Can be obtained at www.medscape.com.

Gorman, Jack. 1997. *The Essential Guide to Psychiatric Drugs, 3rd Ed.* St. Martin's Griffin. New York.

Kuhn, Daniel; Ortigara, Anna; Lindeman, David. 1999. *The Growing Challenge of Alzheimer's Disease in Residential Settings*. National Institute on Aging.

National Institutes of Health. 1995. *Alzheimer's Disease, Unraveling the Mystery*. Can be obtained at www.nih.gov.

Springhouse. 2001. *Nursing 2001 Drug Handbook*. Springhouse. Springhouse, PA.

Tappen, Ruth. 1997. *Interventions for Alzheimer's Disease, a Caregiver's Complete Reference*. Health Professional's Press. Baltimore.

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Certificate of Completion

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