



Introduction to Clinical Pharmacology

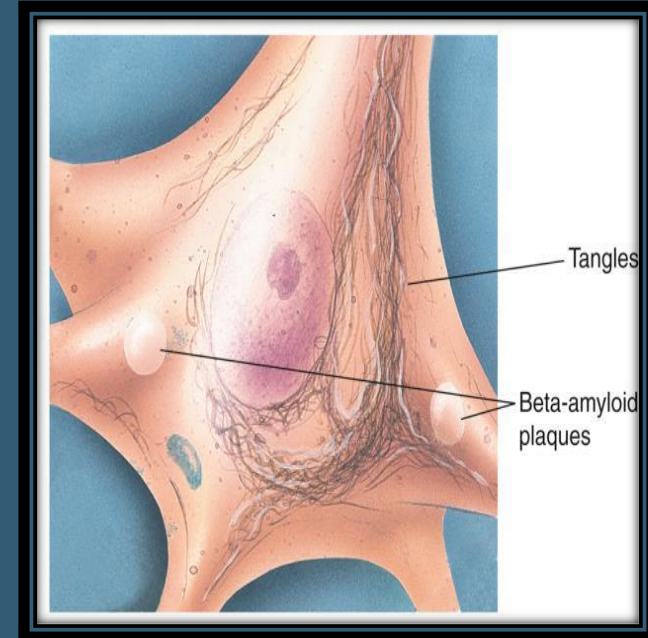
Chapter 18 Antidementia Drugs

Learning Objectives

1. Compare and contrast the clinical manifestations of Alzheimer disease (AD).
2. Explain the uses, general drug actions, general adverse reactions, contraindications, precautions, and interactions associated with the administration of antimentia drugs.
3. Distinguish important preadministration and ongoing assessment activities the nurse should perform with the client taking an antimentia drug.
4. List nursing diagnoses particular to a client taking an antimentia drug.
5. Examine ways to promote an optimal response to therapy, how to manage common adverse reactions, and important points to keep in mind when educating clients about the use of antimentia drugs.

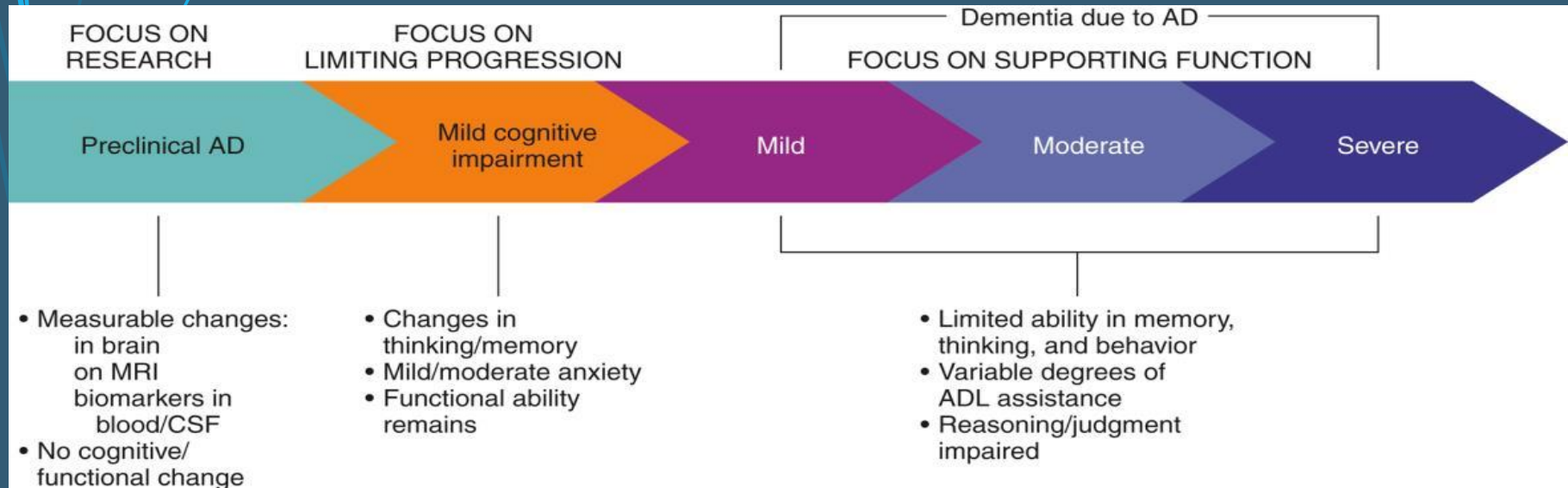
What Is Dementia?

- ❖ Dementia—a general term used for a variety of diseases and conditions that involve decrease in cognitive functioning (i.e., memory, attention, language, communication, and problem-solving)
- ❖ Alzheimer disease—type of dementia with amyloid plaques and tangled nerve bundles which slow or block transmission within the brain



Continuum of Alzheimer Disease Progression

- ❖ Preclinical
- ❖ Mild cognitive impairment
- ❖ Mild
- ❖ Moderate
- ❖ Severe



Dementia versus Delirium

	Delirium	Dementia
Onset	Sudden change	Progressive change
Typical presentation	Affects senses (see, hear, feel)	Affects memory and judgment
Reversibility	Yes, when cause such as oxygen, chemical imbalances, or infection is found and treated	No, can slow progression with drugs, need to change environment for a client to remain safe

Antidementia Drugs—Actions #1

❖ Cholinesterase Inhibitors

- Increase the levels of acetylcholine in the central nervous system by inhibiting its breakdown and slowing neural destruction
- Slow but do not stop the progress of the disease
- Example: donepezil



Antidementia Drugs—Actions #2

❖ NMDA Receptor Antagonist

- Decreases the excitability of neurotransmission caused by an excess of the amino acid glutamate in the central nervous system
- NMDA blocker attaches to the nerve cell receptors and helps prevent cell damage
- Example: memantine

Antidementia Drugs—Uses

- ❖ To treat early and moderate stages of dementia associated with Alzheimer disease
- ❖ Investigational use for severe cognitive decline associated with vascular or Parkinson dementia
- ❖ Drugs are best used early as they slow the progression of AD

Antidementia Drugs—Adverse Reactions

General Adverse Reactions:

- Anorexia
- Confusion
- Nausea
- Vomiting
- Diarrhea
- Dizziness
- Headache



Antidementia Drugs—Contraindications and Precautions

➤ Contraindicated in clients with:

- known hypersensitivity to the drugs
- pregnancy and lactation
- confusion from delirium

➤ Use cautiously in clients with:

- renal disease, bladder obstruction
- seizure disorders
- sick sinus syndrome
- GI bleeding
- asthma
- a history of ulcer disease



Antidementia Drugs–Interactions

Interacting Drug	Common Use	Effect of Interaction
Anticholinergics	Decrease of bodily secretions	Decreased effectiveness of anticholinergics
Nonsteroidal anti-inflammatory drugs	Pain relief	Increased risk of GI bleeding
Theophylline	Breathing problems	Increased risk of theophylline toxicity
Thiazide diuretics with NMDA receptor antagonist	Reduce fluid retention	Decreased effectiveness of the thiazide drug

Nursing Process—Client Receiving an Antidementia Drug #1

- ➔ Preadministration Assessment
- ➔ Objective Data
 - ➔ Description of general appearance, orientation to person, place, and time
 - ➔ Observation of behavior during interview (e.g., inappropriate answers to questions)
 - ➔ Obtain body weight & vital signs
 - ➔ Cognitive screen (e.g., Mini-Mental Status Examination)
 - ➔ Other cognitive and functional ability testing

Nursing Process—Client Receiving an Antidementia Drug #2

- ➔ **Pre-administration Assessment**
- ➔ **Subjective Data**
 - ➔ **Current history of symptoms**
 - ➔ **Comparison of client and family member report of ability to perform activities of daily living and self-care**
 - ➔ **Unusual activity, wandering, angry outbursts**
 - ➔ **Review the chart for drugs that may cause changes in mental health**

Nursing Process—Client Receiving an Antidementia Drug #3

➔ Ongoing Assessment

- ➔ Includes both mental and physical assessment, often using standardized assessment tools or instruments
- ➔ Initial assessments will be compared with ongoing assessments to monitor client's improvement after taking antidementia drugs
- ➔ Effects of antidementia drugs may take several weeks

Nursing Process—Client Receiving an Antidementia Drug #4

➤ Nursing Diagnoses

- **Malnutrition: Less Than Body Requirements** related to anorexia, nausea, or vomiting
- **Injury Risk** related to dizziness, syncope, clumsiness, or the disease process



Nursing Process—Client Receiving an Antidementia Drug #5

► Planning

► Expected client outcomes may include:

► Optimal response to therapy

► Management of common adverse drug reactions

► Absence of injury

► Confidence in an understanding of the prescribed medication regimen

Nursing Process—Client Receiving an Antidementia Drug #6

➔ Implementation

➔ Promoting Optimal Response to Therapy

- ➔ When drugs are no longer successful at slowing the progression of the disease, environmental factors may need to change
- ➔ If the client is hospitalized, monitor vital signs and complete other assessments to determine if the changes in cognition are due to delirium rather than dementia
- ➔ Continue cholinesterase inhibitors during hospitalization. If therapy is discontinued, the client loses any benefit they received over the prior 6 weeks of treatment

Nursing Process—Client Receiving an Antidementia Drug #7

➔ Implementation

➔ Promoting Optimal Response to Therapy

- ➔ Apply transdermal forms of antidementia drugs to a new, clean, dry, hairless area of the body that the client cannot easily reach
- ➔ The same site should not be used more than once every 2 weeks; document the location of application and track for 14 days—teach caregivers

Nursing Process—Client Receiving an Antidementia Drug #8

➔ Implementation

➔ Monitoring and Managing Client Needs

➔ Malnutrition: Less Than Body Requirements

- ➔ Attention to dosing of medications can be helpful to decrease adverse GI reactions and promote nutrition (especially with rivastigmine)
- ➔ Remove oral dosing syringe provided in protective container when rivastigmine is administered as oral solution
- ➔ The use of namzaric (combined cholinesterase inhibitor and NMDA receptor antagonist) is taken only once daily and may be easier to take for some clients with dementia

Nursing Process—Client Receiving an Antidementia Drug #9

Implementation

Monitoring and Managing Client Needs

Malnutrition: Less Than Body Requirements

- Keep mealtime simple and calm; offer client well-balanced foods that are easy to chew and digest
- Offer frequent small meals and a variety of different foods (consistency and flavor)
- Encourage fluids



Nursing Process—Client Receiving an Antidementia Drug #10

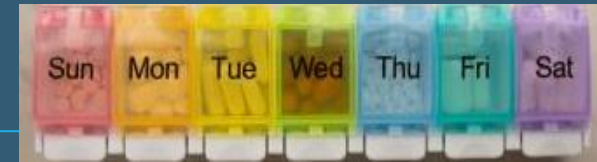
➔ Implementation

➔ Monitoring and Managing Client Needs

➔ Injury Risk

- ➔ Provide the client with appropriate assistive devices for ambulation and offer assistance with ambulation
- ➔ Provide a controlled and safe environment (e.g., bed alarms, bed in low position, night lights, and frequent monitoring)
- ➔ Client should always wear a medical identification bracelet

Nursing Process—Client Receiving an Antidementia Drug #11



- **Implementation—Educating the Client and Family**
 - **Develop a teaching plan for the client and family to include:**
 - **Keep all appointments with primary care provider—dose changes may be needed to achieve best results**
 - **Report any adverse effects**
 - **Take the drug exactly as prescribed; correct and routine administration is key to effectiveness**
 - **Do not drive or perform other hazardous tasks while drowsy—consider referral for driving evaluation consultation with provider**

Nursing Process—Client Receiving an Antidementia Drug #12

- **Implementation—Educating the Client and Family**
 - **Develop a teaching plan for the client and family to include:**
 - **Talk to primary health care provider before taking any nonprescription medications**
 - **Track the administration of the drug**
 - **Notify primary health care provider if client has a history of ulcers, feels faint, experiences stomach pains, vomits blood or substance that looks like coffee grounds, or has bloody or black stool**
 - **Remember that the antidementia drugs slow the progression of the disease but do not cure the dementia**

Nursing Process—Client Receiving an Antidementia Drug #13

➔ Evaluation

- ➔ Was the therapeutic effect achieved? Has cognitive function maintained?
- ➔ Were adverse reactions: identified, reported, and managed?
 - ➔ Client maintains an adequate nutritional status
 - ➔ No injury is evident
- ➔ Did client (if able) and family express confidence and demonstrate understanding of drug regimen?



SUMMARY DRUG TABLE

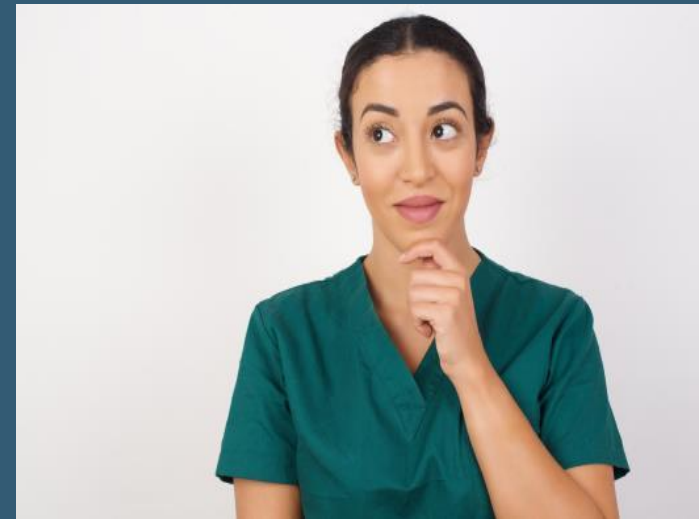
Antidementia Drugs

Generic Name	Trade Name	Uses	Adverse Reactions	Dosage Ranges
Cholinesterase Inhibitors				
donepezil <i>doh-NEP-e-zil</i>	Aricept	Mild to severe dementia caused by AD, memory improvement in dementia caused by stroke, vascular disease, multiple sclerosis	Headache, nausea, diarrhea, insomnia, muscle cramps	5–10 mg/day orally
galantamine <i>ga-LAN-fa-meen</i>	Razadyne	Mild to moderate (AD) dementia	Nausea, vomiting, diarrhea, anorexia, dizziness	16–24 mg BID orally
rivastigmine <i>ri-va-STIG-meen</i>	Exelon (transdermal)	Mild to moderate dementia of AD and Parkinson disease	Nausea, vomiting, diarrhea, dyspepsia, anorexia, insomnia, fatigue, dizziness, headache	1.5–12 mg/day BID orally; 4.6, 9.5, 13.3 mg daily transdermal patch
NMDA Receptor Antagonist				
memantine <i>me-MAN-teen</i>	Namenda	Moderate to severe (AD) dementia	Dizziness, headache, confusion	5–10 mg BID orally
Combination Drugs				
memantine/donepezil	Namzaric	Moderate to severe (AD) dementia	See individual drugs above	14–28/10 mg orally every evening

Pharmacology in Practice Exercise #1

In the following stage of Alzheimer disease, there are brain changes detectable on an MRI but no cognitive changes. Which stage of the disease is being described?

- a) Stage 1
- b) Stage 2
- c) Stage 3



Pharmacology in Practice Exercise #2

- A client with dementia also may have delirium. Which of the following signs indicate a cognitive problem is due to delirium and not dementia? Select all that apply.
- a) Sudden onset
 - b) Client feels itchy
 - c) Placing oxygen may resolve it
 - d) Progressive changes
 - e) Irreversible



Pharmacology in Practice Exercise #3

→ A client with moderate dementia of the Alzheimer type repeatedly spits out pills. They are being changed to a transdermal patch. Where should the nurse place a cholinesterase inhibitor transdermal patch so the client can't easily remove it?

- a) Upper arm
- b) Side of thigh
- c) Chest
- d) Lower back

