

**Student Version:
MEDICATIONS FOR ALZHEIMER'S
DISEASE**

Valencia Community College
DEH 2300 - Summer: 2014

Internet sites used in the development of this material:

<http://www.nia.nih.gov/Alzheimers/Publications/medicationsfs.htm>

<http://www.mayoclinic.com/health/alzheimers-disease/DS00161>

DEFINITION

- Most common cause of dementia
- Loss of intellectual and social abilities severe enough to interfere with daily functioning

CAUSE(S)

- No one cause identified
- Likely combination:
 - Genetics
 - Lifestyle
 - Environmental factors

PATHOPHYSIOLOGY

– 2 types of brain cell damage

- Plaques
 - Beta-amyloid clumps may interfere with communication between brain cells.
- Tangles
 - Threads of protein (called tau) may tangle and damage neurons causing them to die.

<http://www.ahaf.org/alzheimers/about/understanding/plaques-and-tangles.html>

PATHOPHYSIOLOGY (cont.)

- Numerous factors can worsen S/Sx
 - CVA
 - Meds
 - Hypoglycemia
 - Brain lesion

INCIDENCE

- 5% of people 65-74 years of age
- Nearly 50% of people over 84 years of age
(Numbers vary by source.)

RISK FACTORS

- Age
- Gender (female)
- Heredity
- Lifestyle / Health Issues
 - Diet
 - Hyperlipidemia
 - Hypertension
 - Poorly controlled diabetes
 - Stress management
 - Little or no Socialization / Depression
 - ↓ Activity level
- Mild cognitive impairment
- Education level

CLINICAL MANIFESTATIONS

- Progressive but rate varies
- Most patients have long periods with little change

CLINICAL MANIFESTATIONS (cont)**– STAGE ONE (MILD)**

- Memory loss
- Difficulty performing familiar tasks
- Problems with language
- Poor or decreased judgment
- Problems with abstract thinking
- Misplacing things
- Changes in mood or behavior
- Changes in personality
- Loss of initiative
- Decrease in sense of smell

CLINICAL MANIFESTATIONS (cont)**– STAGE ONE (MILD)**

- May include difficulty with:
 - Speech
 - Reading
 - Comprehension and
 - Writing

CLINICAL MANIFESTATIONS (cont)**– STAGE TWO (MODERATE)**

- ↑ memory loss
- ↓ attention span
- Difficulty recognizing friends & family
- Problems with language
- Difficulty organizing thoughts
- Trouble learning new things or coping with the unexpected
- Restlessness, agitation, anxiety, tearfulness and wandering especially after sundown
- Repetitive statements or movements
- Hallucinations, delusions, suspiciousness or paranoia
- Reduced impulse control

CLINICAL MANIFESTATIONS (cont)**– STAGE THREE (SEVERE)**

- Complete loss of language & memory
- Weight loss
- Seizures, skin infections and dysphagia
- Making noises & muttering
- Increased sleeping
- Incontinence (bowel &/or bladder)
- Loss of physical coordination

CLINICAL MANIFESTATIONS (cont)

What is Sundowner's Syndrome?

Are there any recommended methods of dealing with this problem?

PREVENTION

- **Physical exercise**
 - Intellectual activity
 - Language skills
 - Socialization
 - Diet
 - Caffeine
 - Calcium
 - Walnuts
- <http://www.alzprevention.org/lifestyle-choices-about-diet.php>

PREVENTION (cont.)

- Supplements
- Medications
 - Statins
 - NSAIDs (controversial)
 - Antihypertensives
 - Antidepressants
- Pet Therapy

ALZHEIMER'S MEDICATIONS

- **Selective Acetylcholinesterase Inhibitors**
 - Improve cognitive function by preventing the breakdown of acetylcholine in the synaptic cleft.
 - Effective for mild to moderate disease
 - **Side Effects**
 - GI upset (nausea, vomiting, anorexia)
 - **Contraindications**
 - GI bleeding
 - Jaundice
 - Renal disease
 - Pregnancy; lactation

Meds (cont.)

- Selective acetylcholinesterase inhibitors (cont)
 - **Examples**
 - » **Aricept**[®] (donepezil)
 - » **Exelon**[®] (rivastigmine) - available in patch
- The 2 meds listed above cause cholinergic side effects and dizziness.
- » **Razadyne**[®] (galantamine) – formerly known as Reminyl[®]
 - » **Cognex**[®] (tacrine) – Discontinued in the US according to:
- <http://www.medicinenet.com/tacrine/article.htm>

Meds (cont.)

- **NMDA (Receptor Antagonist) (N-methyl-D-aspartate antagonist)**
 - Is believed to selectively block the excitotoxic effects with abnormal transmission of glutamate but allowing the physiological transmission associated with normal cell functioning.
 - **Example: Namenda**[®] (memantine)
 - Can be used alone or with Aricept[®].
 - Used for moderate to severe disease.
 - **Common side effects**
 - Dizziness
 - H/A
 - Constipation
 - Confusion
 - Falls
 - Agitation

Meds (cont.)

Recommended website:

<http://www.nia.nih.gov/Alzheimers/Publications/medicationsfs.htm>

• **Alternative Methods** of TREATMENT:

- Ginkgo Biloba
- Turmeric
- Melatonin
- What else?

Student Assignment:

Axona (caprylidene)