Psychotropic Medication Use/Misuse in Elders with Dementia

Presented by Jeannine Clark, GNP, MSN

Medications can be considered inappropriate when their risk outweighs their benefit.
The misuse of psychotropic medications exposes patients to adverse side effects and can lead to deterioration of medical and cognitive status.

As a result, the OBRA of 1987 was passed to protect residents of long-term care facilities from medically unnecessary physical and chemical restraints use as discipline or for convenience.

**Overview**

**Economic Impact**

Annual expenditures on antipsychotics per CMS

- 2000 - $2.14 billion
- 2003 - $4.10 billion
- 2005 - $5.40 billion
Prevalence

- 30% of total nursing home population is receiving antipsychotic medications.
- According to CMS 21% of nursing home patients who do not have a psychosis are on antipsychotic medications.

The economics of elderly care can work in favor of medications since federal insurance programs reimburse more readily for medications than staff.
Black Box Warning: 

- Increased mortality in patients with dementia-related psychosis
- Elderly patients with dementia-related psychosis on atypical antipsychotics have a 1.6-1.7 increased risk of death. Although causes of death varied, most were related to cardiovascular (heart failure, sudden death), or infectious in nature.

Black Box Warning (cont): 

Black Box Warning (cont)

- NO antipsychotic is approved for the treatment of patients with dementia-related psychosis.
- Approved only for the treatment of schizophrenia and bi-polar disease.
- Not approved (off label use) for treatment of agitation.
A number of studies have demonstrated that inappropriate prescribing is common in outpatient settings, nursing homes, and in emergency departments which result in increased adverse drug reactions and hospitalizations.

Research Studies (cont)

- Annals of Internal Medicine (2007) reported a large study of 27,259 persons age 65+ with dementia comparing atypical antipsychotics vs. placebo. Increased mortality occurred within 30-180 days of beginning atypical antipsychotics.
Research Studies (cont)

- CMAJ 2007 reports a study of 37,241 persons age 65+ on atypical antipsychotics vs. typical (conventional) antipsychotics. They found the same or greater risk of cardiac disease and cancer with typical antipsychotics.
- Problems with this study were lack of randomization, patients were sicker, and difficulty determining cause of death.

What are Antipsychotics?

- Also referred to as neuroleptics derived from the Greek language. Neuro refers to nerves and lept means to take hold of. “Taking hold of one’s nerves.” These drugs commonly made movement more difficult and sluggish, which physicians believed meant the dose was high enough.
What are Antipsychotics?

• All antipsychotic drugs tend to block release of a chemical (dopamine) in the brain which has been linked to psychotic experiences.
• Are a class of medications used to treat psychosis and other mental and emotional conditions.

What Are Antipsychotics?

• Also described as typical (conventional) or atypical
• TYPICAL antipsychotics are not particularly selective and also block receptors in other areas of the brain producing unwanted side effects such as:
**Typical Antipsychotic Side Effects**

- EPS (extra pyramidal symptoms)-acute dystonia (muscle spasms of the eyes, neck, tongue), akathesia (inability to remain motionless), akinesia (inability to initiate movement).
- TD (tardive dyskinesia)-involuntary purposeless movements of the face, lips, torso, and legs. In elderly population, incidence is 26% after 1 yr, 52% after 2 yrs, 60% after 3 yrs.

**Typical Antipsychotic Side-Effects (continued)**

- Depressed mood
- Parkinsonism
- Weight gain
- Low white blood cell count
- Dry mouth
- NMS-life threatening neurological disorder
- Rapid heart rate
- Low blood pressure
- Impotence
- Lethargy
- Seizures
- High serum prolactin
**Atypical Antipsychotic Activity**

- Therapeutically more effective for treatment of symptoms
- Improvement in mood and cognition compared to typical antipsychotic drugs in schizophrenia
- Minimal or no elevation of prolactin
- Causes fewer acute and chronic EPS

**Atypical Antipsychotic Side Effects**

- Less EPS
- Predisposition to arrhythmias, sudden death
- Accelerated cognitive decline
- Deep vein thrombosis
- Increased risk of aspiration pneumonia
- Pulmonary embolism
- Strokes
- Falls
- Elevated blood sugar
Monitoring Patients on Atypical Antipsychotics

- EKG
- Fasting Glucose
- Abnormal Involuntary Movement Scale
- Lipids/Liver function tests
- CBC
- CV Adverse Events
- Obesity
- Non-compliance
- Neuroleptic Malignant Syndrome
- Seizures

Treatment Options

Typical Antipsychotics:

1. Typical (Conventional) low potency antipsychotics with low risk for EPS: Thorazine, Mellaril
2. Typical high potency antipsychotics with high risk for EPS: Haldol, Prolixin, Stelazine, Navane, Moban
Treatment Options

Atypical Antipsychotics:
- Clozaril
- Resperdal
- Zyprexa
- Seroquel
- Geodon
- Abilify

Dementia

Signs and symptoms:
- Loss of recent memory
- Difficulty with language and naming (word finding difficulty)
- Spatial disorientation (getting lost).
- Executive dysfunction: motivation, sequencing behavior, maintaining attention and concentration.
- Progressive loss of ability and performance of ADLs and IADLs.
**Signs and Symptoms (cont)**

Neuropsychiatric symptoms occur in the majority of persons with dementia over the course of the disease (MCI as well)

<table>
<thead>
<tr>
<th>Delusions</th>
<th>Resists care</th>
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<tbody>
<tr>
<td>Disinhibition</td>
<td>Depression</td>
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<tr>
<td>Apathy</td>
<td>Wandering</td>
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<tr>
<td>Sleep disturbances</td>
<td>Agitation</td>
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<tr>
<td>Hallucinations</td>
<td>Catastrophic</td>
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<td></td>
<td>reactions</td>
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**Presentation**

- Apathy: withdrawn, lack of interest, lacks motivation
- Depression: sad, tearful, hopeless, anxious, low self-esteem, guilt
- Aggression: resistive, physically/verbally threatening
- Psychosis: hallucination, delusions, misidentifications
Presentation

Agitation: condition of psychomotor excitement, appears to be purposeless and restless in nature, can become aggressive, combative.

Presentation (cont)

• Agitation may be manifested through:
  Speech: cursing, shouting, crying, loud or rapid speech
  Physiological: sleep/rest disturbance, refusal to eat/drink, incontinence
  Psychomotor: pacing, accelerated movements, banging objects, pulling at clothes, skin, dressings, or imagined objects, wandering
Incidence of Behavioral Symptoms

- 1/3 residents in AL/RC exhibit 1 or more behavior symptoms per week
- 13% exhibit aggressive behavioral symptoms
- 20% physically non-aggressive behavioral symptoms
- 22% verbal behavior symptoms
- 13% resist taking meds or performing ADLs

J AM Geriatr Soc 2004
Oct;52(10):1610-17

Goal of treatment and management of behavioral symptoms:
First...do no harm
4 Steps

Look for reversible/treatable cause for the behavior or behavior change

Delirium diagnosis:

Mental Status Exam:
- level of consciousness
- sleep disturbance
- psychomotor activity
- affect
- perceptual disturbance
- behavior
- speech disturbance
- orientation

Reversible/Treatable Causes

- Cognitive history:
  - Are there changes?
  - What changes observed?
  - When did changes occur?
- Delirium:
  - Acute onset-fluctuating course
  - Inattention
  - Disorganized thinking OR
  - Altered level of consciousness
Reversible/Treatable Causes

I WATCH DEATH

- Infection
- Withdrawal
- Acute Metabolic
- Trauma
- CNS pathology
- Hypoxia

Deficiencies
Endocrine
Acute vascular/MI
Toxins-drugs
Heavy Metals

Adapted from St. Louis Univ. Geriatric Evaluation
Mnemonic Screening Tools

Signs and Symptoms of Delirium

- Visual & tactile hallucinations
- Incoherent speech
- Agitation
- Disorientation
- Memory loss
- Acute psychotic reactions
Treatment and Management

- “Correct the correctibles”
- Monitor closely
- Stop non-essential medications (drug toxicity or drug induced delirium common)
- Reduce psychiatric symptoms
- Provide cognitive structure/emotional support
- Maintain function

Sundowning Syndrome

Epidemiology

- Dysfunction of the circadian rhythm resulting in disturbed sleep and agitation
- Circadian rhythm - regular changes in mental and physical characteristics that occur in the course of a day; controlled by body’s biological clock
- Not uncommon; exact prevalence unknown
- Reported at 2.4%-25%, and up to 66% in patients with Alzheimer’s Disease
Sundowning: Definition

• A group of behaviors occurring in some older patients with or without dementia during the night or sunset
• Behaviors:
  Confusion
  Anxiety, agitation, or aggressiveness
  Psychomotor agitation (pacing, wandering)
  Disruptive resistance to redirection
  Increased verbal activity
• Overlap with dementia, delirium, and sleep disturbance

Interventions to Reduce Sundowning

• Orient
• Daytime stimulation
• Assess for delirium
• Daytime light
• Bedtime routine and rituals
• Provide consistent caregivers
• Eliminate environmental factors that keep patient awake
• Discourage stimulant beverages or smoking near bedtime
Interventions To Reduce Sundowning

• Give diuretics/laxatives early in day
• Give personal care at consistent time each day
• Be certain patient wearing glasses, hearing aid
• Surround by familiar objects
• Assess amount of sensory stimulation
• Expose to late afternoon sun
• Avoid sedative hypnotics
• Respite care for caregiver

Try Non-Pharmacological Interventions

• Behavioral Intervention
  D-describe the behavior
  R-reason for the behavior
  N-non-pharmacological approach
  O-order meds as last resort
• Remember a behavior can be a result of internal stimuli such as hunger, pain, fear, decreased sensory input, need to use BR, or external stimuli such as people, objects, change in caregiver, environment, travel, hospitalization, bathing, etc.

From Annals of Long-Term Care/Vol.13,Number11/Nov 2005
Non-Pharmacological Intervention (cont)

- **DO** redirect attention, ask permission, reassure, use visual & verbal cues, offer choices, slow pace, try audio-video tapes, therapeutic touch, pet therapy, music.
- **Don’t** disagree, be confrontational, show anger, or over stimulate.

Cholinesterase Inhibitors (CHEIs)

- Should be considered for behavioral symptoms
- Use with or without memantine
- Improves MMSE score after 6 months
- Improves cognitive function
- Improves ADL abilities
Antipsychotics

• Discuss with resident and family before initiating
• Be aware the majority of studies report lack of effectiveness with typical antipsychotics
• Slim benefits of atypical antipsychotics offset by risk of ischemic CV events & increased death rate

Criteria for initiating Antipsychotics

1. Poses a danger to self or others.
2. Uncontrolled agitation despite non-pharmacological interventions.
3. Anxiety in the presence of agitation and/or hallucinations.
4. Need to decrease agitation for diagnostic or clinical intervention.
### Stage-Related Behavioral Symptoms and Interventions

<table>
<thead>
<tr>
<th>Stage</th>
<th>Behavioral Symptoms</th>
<th>Interventions</th>
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<tbody>
<tr>
<td>Mild</td>
<td>Forgetfulness&lt;br&gt;Asking repetitive questions&lt;br&gt;Generalized anxiety&lt;br&gt;Restlessness, pacing&lt;br&gt;Withdrawal from activities&lt;br&gt;Apathy&lt;br&gt;Depression</td>
<td>Spaced retrieval&lt;br&gt;Memory books&lt;br&gt;Reality orientation&lt;br&gt;Reminiscence therapy&lt;br&gt;Cognitive remediation&lt;br&gt;Individual/family counseling&lt;br&gt;Patient/caregiver support group</td>
</tr>
<tr>
<td>Moderate</td>
<td>Increased restlessness/pacing&lt;br&gt;Wandering&lt;br&gt;Delusions&lt;br&gt;Aggression&lt;br&gt;Agitation&lt;br&gt;Suspicion, paranoia&lt;br&gt;Depression&lt;br&gt;Sundowning&lt;br&gt;Disinhibition&lt;br&gt;Change in dinural/circadian rhythms</td>
<td>Walking, light exercise&lt;br&gt;Secured doors, electronic monitoring&lt;br&gt;Medic-Alert, Safe Return bracelet&lt;br&gt;Aromatherapy&lt;br&gt;Simulated presence therapy&lt;br&gt;Calming music&lt;br&gt;Validation therapy&lt;br&gt;Bright light&lt;br&gt;White noise&lt;br&gt;Pet therapy&lt;br&gt;Snoezelen</td>
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<tr>
<td>Severe</td>
<td>Repetitive vocalizations screaming, crying out, moaning</td>
<td>Music Snoezelen Simulated presence therapy</td>
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</table>

From Counselling Points NCGNP/NGNA March 2008, Vol1, No1

### Wandering: Modifying the Environment

- Minimize noise
- Place mirrors near doors and exits to serve as a distracter
- Disguise doors with posters or murals
- Place activity boxes near doorways
- Use electronic devices such as wander guards or bed-exit monitoring systems
Wandering: Interventions

- Encourage exercise balanced with periods of rest
- Provide for walks in secure outdoor areas
- Ensure all basic needs are met (toileting, thirst, nutrition)
- Involve in activities such as folding laundry, sorting
- Redirect pacing or restless behavior
- Provide reassurance
- Use calming music, massage, aroma therapy
- Enroll in Medic Alert and Safe Return programs

Mood Stabilizers/Bipolar Medications

- Although antipsychotics are among the most frequently used medications for treating agitation, anticonvulsants/mood stabilizers such as divalpoex (Depakote) are often prescribed for management of hostility or aggression.
Depression

• Choosing antidepressants with minimal side effect profiles is important in geriatric populations
• Older tricyclic antidepressants, although highly effective, have significant side effects such as dry mouth, constipation, urinary retention, blurred vision, tachycardia, confusion, orthostatic hypotension
• Nortriptylline and desipramine have less severe anticholinergic effects

Depression

Selective Serotonin Reuptake Inhibitors (SSRI’s)

• Fluoxetine (Prozac) and active metabolite—due to long half-life (84-146 hours) can remain in system for weeks after discontinued and therefore not recommended for use in elderly
• Sertraline (Zoloft) and metabolite-half life 25 & 66 hours respectively
• Paroxetine (Paxil)—no active metabolite, half life 24 hours
• Most SSRIs are associated with significant drug interactions
• Citalopram (Celexa) has fewer drug interactions
Anxiety Disorders

Anxiolytic and Sedative-Hypnotic Drugs
Benzodiazepines are indicated for short term management of anxiety and insomnia, but non-pharmacological measures should be tried first:
- Good sleep habits
- Decrease afternoon caffeine intake
- Exercise regularly before dinner
- Avoid naps
- Treat nighttime pain
- Treat nocturia
- Maintain comfortable bedroom environment

Benzodiazepines

- If Benzodiazepine therapy becomes necessary use short-acting agents in the elderly
- Restoril and Ativan have shorter half-lives (3-18 hours and 10-16 hours respectively) and short duration of action
- Long acting Benzodiazepines have half-lives that exceed 100 hours, carrying increased risk for falls, profound confusion, and cognitive impairment
- Side effects include excessive sedation, psychomotor slowing, confusion, cognitive impairment, forgetfulness, morning hangover, ataxia, and falls
Sedatives/Insomnia

- Some drugs are FDA approved as “sleeping pills.” Most PCPs avoid these in elderly dementia patients as these have serious side effects such as incontinence, impaired balance, falls, and increased agitation.
- Also avoid OTC sleep remedies as the active ingredient is often diphenhydramine (Benadryl) which can further suppress the activity of one of the main brain cell messenger chemicals which is reduced in AD.

Case Study

- 82 year old female with Alzheimer’s Disease who resides in a nursing home. She likes to wheel around the unit in her wheelchair, occasionally wanders into other residents’ rooms. She enjoys music and having her hair brushed. When she becomes agitated, she bangs her hand on the table and screams. She is placed on scheduled Seroquel and Haldol PRN (as needed). A lap buddy (restraining device) was placed on her wheelchair.
- Was there a need to physically and chemically restrain this resident? What other interventions should/could have been tried?
Case Study

- 90 year old male with history of mild multi-infarct dementia, 2 strokes resulting in visual-spatial deficits, word-finding difficulties, agitation, irritability. Also history of pulmonary hypertension, and type 2 diabetes. Following his second stroke he was placed on Valproic acid (Depakote) 250mg twice daily for management of agitation with good results. Also continued on Aricept 10 mg daily.
- Due to family’s inability to care for him at home, he was placed in a nursing home. Resident did well when family present, or visiting with other residents, or watching TV. Restless at night. Often up getting dressed, changing clothes, taking off sheets and bedspreads, going into the bathroom.
- Nursing staff requests Ativan to treat patient’s anxiety.
- Is this appropriate? What other causes may explain resident’s actions and what other non-pharmacological interventions could be tried?