Dementia-Related Psychosis in Long-Term Care:
Identification and Management

Faculty
Tammie Lee Demler, BS, PharmD, MBA, BCGP, BCPP
University of Buffalo School of Pharmacy and Pharmaceutical Sciences

Nearly 50 million people worldwide live with dementia, and of those, up to 90% will experience Behavioral and Psychological Symptoms of Dementia (BPSD), including psychosis, during their disease progression. Psychotic symptoms of dementia include hallucinations, delusions, and delusional misidentifications. These symptoms decrease patients’ quality of life and are often distressing for patients and caregivers. Management of psychosis in dementia can be challenging and requires a comprehensive pharmacologic and non-pharmacologic approach. Pharmacologic management is complicated by a lack of approved medications for this indication and marked by low efficacy and high risk of adverse effects for the agents normally employed. This educational activity will educate pharmacists and nurses on the types and causes of dementia-related psychosis (DRP) and how to recognize DRP in the older adult population. This activity will educate pharmacists and nurses on the proper use of treatments for DRP, with a focus on the long-term care setting. This activity will also include discussion on emerging treatments for DRP, as this remains an area of high need. Clinical data about agents currently being studied for DRP will be presented and discussed to give learners the most up-to-date view of the treatment landscape.

Learning Objectives

**Pharmacist**

1. Differentiate between types and causes of dementia-related psychosis (DRP).
2. Compare and contrast treatments for DRP, including non-pharmacological and current pharmacological treatments.
3. Examine clinical data for agents being studied for the treatment of DRP.

**Nurse**

1. Differentiate between types and causes of dementia-related psychosis (DRP).
2. Compare and contrast treatments for DRP, including non-pharmacological and current pharmacological treatments.
3. Examine clinical data for agents being studied for the treatment of DRP.
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Target Audience
Pharmacists, Nurses

Universal Activity Number

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Credit Hours
1.0 Hour

Activity Type
Application-Based

CE Broker Tracking Number
20-816344

Activity Release Date
May 25, 2021

Activity Offline Date
November 24, 2021

ACPE Expiration Date
May 18, 2024

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Tammie Lee Demler, BS, PharmD, MBA, BCNP, BCPP
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Program Overview

Nearly 50 million people worldwide live with dementia, and of those, up to 90% will experience Behavioral and Psychological Symptoms of Dementia (BPSD), including psychosis, during their disease progression.

Psychotic symptoms of dementia include hallucinations, delusions, and delusional misidentifications. These symptoms decrease patients’ quality of life and are often distressing for patients and caregivers.

Management of psychosis in dementia can be challenging and requires a comprehensive pharmacologic and non-pharmacologic approach. Pharmacologic management is complicated by a lack of approved medications for this indication and marked by low efficacy and high risk of adverse effects for the agents normally employed.

This educational activity will educate pharmacists and nurses on the types and causes of dementia-related psychosis (DRP) and how to recognize DRP in the older adult population.

This activity will educate pharmacists and nurses on the proper use of treatments for DRP, with a focus on the long-term care setting. This activity will also include discussion on emerging treatments for DRP, as this remains an area of high need.

Clinical data about agents currently being studied for DRP will be presented and discussed to give learners the most up-to-date view of the treatment landscape.

Meet Our Patient

• JT is a 75-year-old male who developed Parkinson's disease (PD) approximately 15 years ago, with motor difficulties that started with tremors roughly 5 years after his diagnosis.

• Although JT did not have a significant medical history prior to his PD diagnosis, he struggled with metabolic risks that included elevated blood glucose, pre-hypertension and high cholesterol.

Learning Objectives

At the conclusion of this activity, participants should be better able to:

• Differentiate between types and causes of dementia-related psychosis (DRP)
• Compare and contrast treatments for DRP, including non-pharmacological and current pharmacological treatments
• Examine clinical data for agents being studied for the treatment of DRP.
Meet Our Patient

Because he was also considered moderately obese, JT’s medical physician had repeatedly educated him on the need to lose weight and focus on lifestyle factors to improve his health. JT’s wife reported a change in JT’s memory just before his PD tremor became noticeable and what she described as interrupted “thinking” and disorientation that also was accompanied by some moodiness and lack of motivation. At that time, these symptoms were dismissed as potential neurologic effects of the PD.

Years later, as these behavioral and memory symptoms worsened, a CT scan determined JT likely experienced a small unnoticed stroke that resulted in vascular dementia years later. Years later, as these behavioral and memory symptoms worsened, a CT scan determined JT likely experienced a small unnoticed stroke that resulted in vascular dementia years later. JT’s wife had also noticed recently that he started describing seeing black cats running around the house, even though they had no pets. He also began exhibiting paranoia and asking her where she had “been” even though she had not left the house and had been caring for him all day. He became more aggressive, and she admitted to feeling afraid for her safety and reluctantly agreed with family and friends to admit JT to a long-term care facility for treatment.

Objective #1
Differentiate between types and causes of dementia-related psychosis (DRP)

Dementia Overview

- Dementia is a general term that describes loss of problem solving and thinking capabilities (including memory)
- Affects mostly older adults and is not a “normal” part of aging
- Estimated 5 million adults with dementia in 2014 and projected to be ~14 million by 2060
- Normal aging may include some age-related memory changes that may show as:
  - Occasionally misplacing car keys
  - Forgetting to find a word but remembering it later
  - Forgetting the name of an acquaintance
  - Forgetting the most recent events
- Changes associated with normal aging can occur but allow knowledge and experiences built over one’s lifetime, including old memories and language to stay intact.

Dementia Overview

- Memory changes that are not normal and may be signs of dementia:
  - Getting lost in a familiar part of town
  - Forgetting old memories
  - Using unusual or incorrect words to refer to familiar objects
  - Forgetting the name of a close family member or friend
  - Not being able to complete tasks independently

Different Causes of Dementia

- What increases the risk for dementia?
  - Age: the strongest known risk factor for dementia is increasing age, with most cases affecting those of 65 years and older
  - Family history: those who have parents or siblings with dementia are more likely to develop dementia themselves
  - Race/ethnicity: older black individuals are twice more likely and Hispanic individuals are reported to be 1.5 times more likely to have dementia than white individuals
  - Poor heart health: high blood pressure, high cholesterol, and smoking increase the risk of dementia if not managed properly
  - Traumatic brain injury: head injuries can increase the risk of dementia, especially if they are severe or occur repeatedly

Different Types of Dementia

- DSM-5 is the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders
- Dementia, amnestic, and cognitive disorders included as neurocognitive disorders (NCDs)
- NCDs are considered either mild or major and cover a wide array of diagnoses
- Behavioral and psychological symptoms of dementia (BPSD) occur in approximately 90%
- BPSD lead to increased caregiver burden and early unnecessary institutionalization.
- Most patients with dementia will experience one or more BPSDs
Different Types of Dementia

Alzheimer’s disease (AD)
- Most common cause of dementia, accounting for 60%-80% of cases
- First-degree relative with AD increases the risk of developing it by 10%-30%

Vascular dementia (VD)
- About 10% of dementia cases are linked to VD
- Diabetes, high blood pressure, and high cholesterol are also risk factors.
- Symptoms vary depending on the area and size of the brain impacted. The disease progresses with symptoms worsening with additional strokes

Dementia with Lewy bodies (DLB)
- In addition to memory loss, movement or balance problems, and altered alertness
- Commonly experience trouble sleeping at night or may experience visual hallucinations
- About 10% of dementia cases

Differentiate Between Types and Causes of Dementia-Related Psychosis (DRP)

Frontotemporal dementia (FTD)
- Often leads to changes in personality and behavior because of the part of the brain it affects. There may also be problems with language skills like speaking or understanding.

Mixed dementia
- It is estimated that 50% of the NCD population has mixed dementia (both an AD and VD presentation). Disease progression may be faster than with one kind of dementia.

Reversible causes
- People who have dementia may have a reversible underlying cause such as side effect of medication, increased pressure in the brain, vitamin deficiency, and thyroid hormone imbalance.

Other causes: traumatic brain injury, HIV infection, prion disease (e.g., mad cow disease), Parkinson’s disease, or Huntington’s disease

Symptom Clusters of Dementia

<table>
<thead>
<tr>
<th>Symptom Cluster</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agitation/aggression</td>
<td>22-52%</td>
</tr>
<tr>
<td>Depression</td>
<td>20-57%</td>
</tr>
<tr>
<td>Irritability</td>
<td>20-55%</td>
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<tr>
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<td>Sleep disturbance</td>
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Symptom Prevalence Cluster

<table>
<thead>
<tr>
<th>Symptom Prevalence Cluster</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious mood</td>
<td>29-76%</td>
</tr>
<tr>
<td>Agitation/aggression</td>
<td>22-52%</td>
</tr>
<tr>
<td>Depression</td>
<td>20-57%</td>
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<tr>
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Differentiate Between Types and Causes of Dementia-Related Psychosis (DRP)

The prevalence of hallucinations and delusions in dementia is generally progressive and often may double over the course of the illness.

Brandt and colleagues conducted a quantitative online survey which was patient completed by patients with dementia-related psychosis or care partner reported (by care partners of patients with dementia-related psychosis). Subjects were recruited through direct outreach by the advocacy groups UsAgainstAlzheimer’s and the Lewy Body Dementia Association.

In total, 26 patients and 186 care partners participated in the quantitative online survey.
Differentiate Between Types and Causes of Dementia-Related Psychosis (DRP)

- The dementia-related psychosis symptoms most frequently reported in patients:

<table>
<thead>
<tr>
<th>Experienced by the patient</th>
<th>Reported by caregivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual hallucinations (88.5%)</td>
<td>paranoid delusions (75.8%)</td>
</tr>
<tr>
<td>auditory hallucinations (53.8%)</td>
<td>visual hallucinations (75.3%)</td>
</tr>
<tr>
<td>distortion of senses (53.8%)</td>
<td>lack of trust for loved ones (52.2%)</td>
</tr>
</tbody>
</table>

- Visual hallucinations were reported to occur in roughly 50% of patients at least weekly.

Brandt, et al. Dementia-Related Psychosis Symptoms and Impact from the Patient and Care Partner (Caregiver) Perspective: An Observational, Prospective Study to Describe the Patient Experience. 47164_Dementia-Related Psychosis Symptoms and Impact from the Patient and Care Partner_7.8.20a_0.pdf (usagainstalzheimers.org) accessed January 12, 2021

Symptom Clusters of Dementia

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Prevalence</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apathy</td>
<td>29-76%</td>
<td>Not defined</td>
</tr>
<tr>
<td>Agitation/aggression</td>
<td>22-52%</td>
<td>Hyperactivity</td>
</tr>
<tr>
<td>Depression</td>
<td>20-57%</td>
<td>Affective</td>
</tr>
<tr>
<td>Irritability</td>
<td>20-55%</td>
<td>Hyperactivity</td>
</tr>
<tr>
<td>Anxiety</td>
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<td>Affective</td>
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<td>12-42%</td>
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<td>Hallucinations/delusions</td>
<td>10-35%</td>
<td>Psychosis</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>9-35%</td>
<td>Not defined</td>
</tr>
</tbody>
</table>
Symptom Clusters of Dementia

- Recommendation against using sleep promoting medications, including melatonin, for older adults with Irregular Sleep-Wake Rhythm Disorder (ISWRD) and a comorbid diagnosis of dementia
- The authors concluded that withdrawn behaviors observed in patients during melatonin administration, may be related to supraphysiologic serum concentrations
- 2.5 mg dose administered during the study that led to sleepiness and dysphoria which was misinterpreted as mood change

Objective #2

Compare and contrast treatments for DRP, including non-pharmacological and current pharmacological treatments

Compare and Contrast Treatments for DRP, Including Non-Pharmacological and Current Pharmacological Treatments: Psychosocial Interventions

The Association recommends training and education for both professional and family caregivers on psychosocial interventions that might include:
- Review medications, especially new medications
- Promote routine activity
- Separate the person from what seems to be upsetting them
- Assess for the presence of pain, constipation, or other physical problem
- Travel with them to where they are in time
- Don’t disagree; respect the person’s thoughts even if incorrect. Avoid finger-pointing, scolding, or threatening

Compare and Contrast Treatments for DRP, When Considering Pharmacological Treatment Interventions

- Only after initiating non-pharmacologic alternatives as first-line therapy for control
- Identify and remove triggers for BPSD
- Assess severity and consequences of BPSD with less severe behaviors (limited harm) with more severe or “high risk” behaviors
- Determine overall risk to self or others and risks and benefits with and without medication
- Consider pharmacotherapy as a short-term intervention that must be regularly reevaluated for appropriate time of cessation or need for continuation

Compare and Contrast Treatments for DRP, When Considering Pharmacological Treatment Interventions

- In recent years, several pharmacological and psychosocial approaches have proven inadequate
- Medication with benefits when risks are managed: antipsychotics, AChEIs, NMDA antagonist, and antidepressants
- Medication with a risk greater than potential benefit: benzodiazepines, AED mood stabilizers associated with high probability of adverse effects and low probability of meaningful clinical improvement

- Cochrane Database of Systematic Reviews. (2016). Comparison of atypical antipsychotics versus other medications for the treatment of agitation and psychosis in individuals with dementia. Cochrane Database of Systematic Reviews, 5, CD006520. doi: 10.1002/14651858.CD006520.pub4
### Compare and Contrast Treatments for DRP, Including Non-Pharmacological and Current Pharmacological Treatments: Antipsychotics

- **Target symptoms:** severe agitation, aggression and psychosis
- **Benefits:** small to moderate efficacy with onset generally observed within the first 1 to 2 weeks of use (however sedating effects are usually reported upon immediate administration)
- **Risks in addition to the increased risk of mortality:**
  - Extravasational side effects (ERS)
  - Metabolic consequences
  - Risk of thromboembolism
  - Risk of increased cognitive decline
  - Risk of falls
- **Still off-label in US for DRP:**
  - Risperidone is indicated for the short-term treatment (6–12 weeks) of persistent aggression in AD in some countries outside the US.
  - Efficacy data reported also for SGAs: olanzapine (Zyprexa), quetiapine (Seroquel), aripiprazole (Abilify) and the FGA haloperidol (Haldol) though the latter is not recommended first line
- **Brexpiprazole in AD patients with agitation**
- **Pimavanserin for dementia related psychosis**

### Compare and Contrast Treatments for DRP, Including Non-Pharmacological and Current Pharmacological Treatments: Acetylcholinesterase Inhibitors (AChEIs)

- **Medication:** donepezil (Aricept), galantamine (Razadyne), rivastigmine (Exelon)
- **Target symptoms:** depression, dysphoria and anxiety
- **Benefits:** small improvements in BPSD, evidence of slowed cognitive decline (disease progression remains inevitable).
- **Risks in addition to GI complaints:**
  - Anorexia and weight loss
  - Bradycardia
  - Risk of falls
- **Smaller improvements in BPSD and slowed cognitive decline (progression continues)**
  - Headache
  - Constipation
  - Dizziness
  - Risk of falls
- **Potential increased cognitive decline**
- **Risk of thromboembolism**

### Compare and Contrast Treatments for DRP, Including Non-Pharmacological and Current Pharmacological Treatments: Antidepressants

- **Medication:** selective serotonin reuptake inhibitors (SSRI) - sertraline (Zoloft), citalopram (Celexa) and escitalopram (Lexapro)
- **Target symptoms:** agitation, depression and irritability
- **Benefits:** tolerability reported to be better than antipsychotics, and can have similar efficacy for target symptoms
- **Risks in addition to GI complaints:**
  - Hypotension
  - Increased bleeding potential
  - Possible bone loss
  - Tremor/akathisia
  - Cognitive decline

### Compare and Contrast Treatments for DRP, Including Non-Pharmacological and Current Pharmacological Treatments: NMDA Antagonist Memantine

- **N-methyl-D-aspartate (NMDA) antagonist Memantine (Namenda) approved for the treatment of AD, has some effects on behavior as measured by the Neuropsychiatric Inventory (NPI):**
- **Target symptoms:** agitation, aggression and delusions
- **Benefits:** small improvements in BPSD and slowed cognitive decline (progression continues)
- **Risks:** minimal adverse effects reported but include:
  - Headache
  - Drowsiness
  - Constipation
  - Reduced agitation and irritability were seen with the addition of memantine to AChEi
  - Dementia drugs should not be considered as primary therapy for agitation in AD; however, they should not be discontinued unless there is clear evidence that their introduction may have caused the episode

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November 28, 2017, CMS announced several regulatory changes for skilled nursing facilities. The Centers for Medicare & Medicaid Services (CMS) establishes requirements and provides interpretive guidelines for the survey process to ensure optimal patient safety. The expanded list of psychotropic medications includes central nervous system agents, mood stabilizers, anticonvulsants, muscle relaxants, anticholinergic medications, antihistamines, N-methyl-D-aspartate receptor modulators, and over-the-counter natural or herbal products.

It was anticipated that with these expanded rules, many SNFs would be encouraged to provide certain medications to residents. LTC facilities establish processes and a plan going forward that not only ensures compliance with these rules but that also (and most importantly) residents are receiving the care and treatments that they need.

Gradual dose reductions (F-758)

- Psychotropic medication is given only when necessary to treat a specific diagnosis and documented condition.
- Gradual dose reductions must be implemented for residents unless contraindicated.
- Limiting PRN antipsychotic orders to 14 days and not entering a new order without evaluating the resident.
- Limiting PRN psychotropic orders (excluding antipsychotics) to 14 days unless the timeframe is deemed appropriate and documented by the attending physician.
- Residents who use psychotropic medications receive gradual dose reductions and behavioral interventions, unless clinically contraindicated, in an effort to discontinue these medications.

Continued use of these medications is permitted provided:
- When a resident is experiencing an acute medical problem or psychiatric emergency that poses an immediate risk to self or others.
- Use should only be initiated/used in the presence of active clinical symptoms and after nonpharmacological interventions and least restrictive measures have been attempted.

It was anticipated that with these expanded rules, many SNFs would be encouraged to discontinue orders for standing PRN antipsychotic medications.

LTC facilities establish processes and a plan going forward that not only ensures compliance with these rules but that also (and most importantly) residents are receiving the care and treatments that they need.

When antipsychotic discontinuation is advisable and may not result in decompensation:
- If no benefit seen at 4 weeks, taper and discontinue.
- If response is noted, consider continuation for up to 6 months, then trial taper.
- If no benefit seen at 4 weeks, taper and discontinue.
- Devanand et al. however did report relapse and worsening when patients were tapered and discontinued when compared to those who remained on risperidone.

The expanded list of psychotropic medications; CMS has placed 14-day limits on their duration of use when prescribed with PRN orders.

- Extension of use beyond 14 days can occur if the prescribing practitioner:
  - believes it is appropriate to extend the order,
  - documents clinical rationale for the extension, and
  - includes a specific duration of use.

- The rules regarding extension of PRN antipsychotics are even more stringent:
  - prescriber must directly examine and assess the resident and document clinical rationale for continuation which includes the expected benefit specifically for that patient.
  - This documentation is required every 14 days for a resident receiving a PRN antipsychotic without exception, including hospice patients.

Examine clinical data for agents being studied for the treatment of DRP

Clinical Data for Agents Being Studied for Treatment of DRP

<table>
<thead>
<tr>
<th>Phase of trial</th>
<th>Duration</th>
<th>Subjects</th>
<th>Dose</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase II</td>
<td>12 weeks</td>
<td>N=181 AD</td>
<td>34 mg once daily</td>
<td>Large treatment effects in AD patients with more severe psychosis at baseline (NPI-PS 15-22)</td>
</tr>
<tr>
<td>Clinical trial</td>
<td>38 weeks</td>
<td>N=160 DRP</td>
<td>20 mg or 34 mg once daily based on their open-label phase</td>
<td>A long-term relapse prevention study of pimavanserin for the treatment of hallucinations and delusions associated with DRP</td>
</tr>
</tbody>
</table>

Objective #3
Examine clinical data for agents being studied for the treatment of DRP

- New drug candidates target a different pathology than that known to cause dementia-related psychosis but are associated with a favorable pharmacologic profile and benefit
  - These include agonists of M1/4, CB1, and mGluR2
  - Future pharmacotherapy of dementia related psychosis, agitation and aggression will depend on outcomes of phase III trials and future approvals of novel agents or old agents “drafted” for new use
  - Researchers now suggest that avoiding antagonism of the H1, M1, & alpha-2 adrenoceptors to reduce the risk of stROKE, Ecessive sedation, cardio toxicity and additional worsening memory impairments

Examine Clinical Data for Agents Being Studied for the Treatment of DRP

- The dysfunction of the serotonin (5-HT2A) receptor has been associated with onset of psychosis and aggression in AD
- Pimavanserin (Nuplazid) is a selective 5-HT2A inverse agonist (phase III clinical trials)
- Other second-generation antipsychotics (SGAs) that also act 5-HT2A antagonists; lurasidone (Cyprosia) and brexpiprazole (Rekulti) also advanced to phase III clinical trials for dementia related psychosis and agitation
- Brexpiprazole was reported to significantly reduce agitation; lumateperone trial was terminated due to lack of efficacy
- Pimavanserin has been a target of ongoing FDA review for potential expansion of indication to include DRP

Examine Clinical Data for Agents Being Studied for the Treatment of DRP

- New drug candidates target a different pathology than that known to cause dementia-related psychosis but are associated with a favorable pharmacologic profile and benefit
  - These include agonists of NMDA M1/4, 5-HT1, CB1, and mGluR2 receptors with various agents having progressed to advanced preclinical development

- The international Delphi consensus published 2019
  - Expert panel comprised of 11 international members with clinical and research expertise in BPSPS management
  - Consensus outcomes showed a clear preference for an escalating approach to the management of BPSPS commencing with the identification of underlying causes
  - Based on relevant results observed in the phase II and phase III clinical trials and evidence of efficacy and tolerability of this drug in PDP patients with cognitive impairment
  - Regarding future treatments for psychosis, the greatest priority was placed on pimavanserin

Examine Clinical Data for Agents Being Studied for the Treatment of DRP

- National indicates that while the data supports the use of this agent for either dementia-related psychosis or agitation and aggression, the specific indication for use in the USA has not been approved for this indication

- CTM indicates that the clinical trial of this agent is mature and that the indications have been approved by the FDA for this indication

- AD indicates that the data shows efficacy in patients with agitation or delusions associated with dementia

- Parkin indicates that the data shows efficacy in patients with Parkinson’s disease

- Psych indicates that the data shows efficacy in patients with schizophrenia

- Bipolar indicates that the data shows efficacy in patients with bipolar disorder

- LBD indicates that the data shows efficacy in patients with Lewy Body Dementia

- PDD indicates that the data shows efficacy in patients with PDD

- AD related indicates that the data shows efficacy in patients with AD related diagnoses
Examine Clinical Data for Agents Being Studied for the Treatment of DRP

Other pipeline agents under review; more traditional pathways

Dementia related aggression
- 5-HT_{1A}/5-HT_{1B} receptor agonists (eltoprazine) – completed phase II
- Centrally acting alpha-1 adrenergic antagonist (prazosin) – currently in phase II studies
- SERT inhibitors: including SSRIs citalopram and escitalopram

Nocturnal agitation
- Mirtazapine (phase III) and gabapentin (phase IV)

Key Takeaways

Early Detection, Better Care
- Recent studies suggest that identifying mild neurocognitive disorder as early as possible may allow interventions to be more effective
- Early intervention efforts may enable the use of treatments that are not effective at more severe levels of impairment and may prevent or slow progression
- Efforts focusing on prevention: healthy heart, healthy brain
- Long term care facility providers should utilize resources such as consultant pharmacists and medical and nursing directors to not only meet regulations, but to also develop and implement a process to make sure patients have access to appropriate medications, especially those with less potential for adverse events. The Beers criteria can also be used as a guide to assist with this selection process.

Back to Our Patient

JT’s wife admits to feeling afraid and very concerned about her husband’s recent hallucinations and delusions and would like help from their physician. Because these symptoms were initially attributed to vascular dementia, the worsening dementia could possibly now also be psychosis associated with his Parkinson’s Disease.

JT’s physician recommends considering pimavanserin as a medication intervention and provides her with information about the medication. Concerned about the FDA boxed warning which warned about use for dementia related psychosis, they inquire with you, their pharmacist about your opinion in moving ahead with this therapy.

References

1. The FDA boxed warning must be evaluated for benefits of use of the antipsychotic versus leaving the patient without symptom relief. Here, the patient is potentially at risk of harm to self and possibly staff caring for him antipsychotic versus leaving the patient without symptom relief. Here, the patient is potentially at risk of harm to self and possibly staff caring for him.

2. Guidelines advising LTC facilities on appropriate use of medications in their residents will ensure appropriate use of psychotropic agents, including this antipsychotic.

3. Pimavanserin (Nuplazid) is an excellent choice for this patient, given his PD diagnosis and the concomitant impact of the vascular dementia contributing to his psychosis. This antipsychotic agent will not worsen his abnormal movements from his PD and will mitigate his psychotic symptoms.

Thank You
References

- Fauth EB, Gibbons A. Which behavioral and psychological symptoms of dementia are the most problematic? Variability by prevalence, intensity, distress ratings, and associations with caregiver depressive symptoms. Int J Geriatr Psychiatr. 2013; 

Clinical Trials:

- A Phase 3, 12-week, Multicenter, Randomized, Double-blind, Placebo-controlled Trial to Evaluate the Efficacy, Safety, and Tolerability of Brexpiprazole in the Treatment of Alzheimer's Agitation – Full Text View – ClinicalTrials.gov 
- Safety and Tolerability Study of Flexible Dosing of Brexpiprazole in the Treatment of Subjects With Agitation Associated With Dementia of the Alzheimer's Type – Full Text View – ClinicalTrials.gov 
- Brexpiprazole for the Long-term Treatment of Patients With Agitation Associated With Dementia of the Alzheimer's Type – Full Text View – ClinicalTrials.gov 
- A 12-week Randomized Study to Evaluate the Safety and Tolerability of Brexpiprazole in the Treatment of Subjects With Agitation Associated With Dementia of the Alzheimer's Type – Full Text View – ClinicalTrials.gov 
- Brexpiprazole for the Treatment of Patients With Agitation Associated With Dementia of the Alzheimer's Type – Full Text View – ClinicalTrials.gov 
- Relapse Prevention Study of Pimavanserin in Dementia-related Psychosis – Full Text View – ClinicalTrials.gov


Activity Test

Dementia-Related Psychosis in Long-Term Care: Identification and Management

Activity tests must be completed online at www.freeCE.com. A passing grade of 70 or higher and completion of an online activity evaluation are required to earn credit.

1. SM is an 86-year-old female resident of a long-term care facility. She was recently moved to the Memory Care Unit after a successful elopement from the building. The transition to the MCU occurred without incident, but SM has recently begun to experience increased episodes of crying. When questioned, she states that facility staff are coming into her room and stealing her pictures of her deceased husband and other family. She is increasingly distressed by this belief and is beginning to show signs of combativeness against staff who enter her room to provide care. Which symptom experienced by SM is an indication that she may be suffering from Dementia-Related Psychosis?
   a. Crying
   b. Delusions
   c. Wandering
   d. Hallucinations

2. SM becomes increasingly upset with facility staff and even assaulted a care team member. What class of pharmacologic treatment might be trialed to help with SM's symptoms if the benefits are judged to outweigh the risk of use?
   a. Antiparkinson’s agent
   b. Anticholinergic agent
   c. Antipsychotic agent
   d. Anticonvulsant agent
3. Which of the following agents is being studied in the pipeline for dementia-related psychosis?
   a. Mirtazapine
   b. Gabapentin
   c. Prazosin
   d. Pimavanserin

4. Which of the following best describes the unique mechanism of action of pimavanserin that provides benefit over currently available antipsychotic agents for use in patients with Parkinson's disease psychosis?
   a. Selective and mostly exclusive: dopamine (D2) antagonism
   b. Selective and mostly exclusive: serotonin (5-HT2A) agonism
   c. Selective and mostly exclusive: glutamine antagonism
   d. Selective and mostly exclusive: norepinephrine agonism

Please use the following information to answer questions 5-8:

JM is a 75-year-old male resident of a long-term care facility for the last 6 years. He was recently moved to the locked Memory Care Unit (MCU) due to a successful elopement from the building when he was found wandering the streets in just his underwear on a snowy day. The transition to the MCU has been without incident, but there have been episodes of crying and describing that he sees his deceased wife who refuses to help him up and “get him out of here.” JM has a daughter who regularly visits and is here today asking you questions about her dad. She expresses regret because she feels as though she “waited too long” before seeking help for her dad when she started noticing something might be wrong.

5. Which of the following scenarios would have warranted further evaluations to get JM an earlier diagnosis of dementia versus signs of normal aging?
   a. He forgot the name of the bank teller who helped him that same day
   b. He forgot who won the Superbowl only a week after it happened
   c. He realized in the spring that he had misplaced the key to the shed in the fall
   d. He got lost driving from the corner store he always stops at on the way home from bingo
6. JM's daughter wonders if her father might have been "predisposed" to getting dementia. Which of the following demographic and clinical predictors might have increased JM's risk of dementia?
   a. He has high blood pressure
   b. He is hearing impaired
   c. He is white
   d. He is male

7. Which of the following percentages most accurately reflects the likelihood, based on reported prevalence in the current literature, that JM will experience hallucinations as part of his symptom cluster(s) of dementia?
   a. 100%
   b. 75%
   c. 50%
   d. 25%

8. What medication would JM's daughter expect to have trialed as an intervention for her dad that would be considered an acceptable pharmacologic treatment intervention if the benefits outweighed the risk of use?
   a. Antiparkinson's agent
   b. Anticholinergic agent
   c. Antipsychotic agent
   d. Anticonvulsant agent
Please use the following information to answer questions 9-10:

JM’s nurse contacts his daughter to inform her of a recent exacerbation of his agitation and assaultiveness toward staff. She indicates that there was a planned intervention to deescalate the increasing aggression and to intervene before his behaviors became any more dangerous to self or others.

9. Which of the following pharmacologic interventions would you advise JM's daughter to decline, if offered, due to the risk being greater than the potential benefit to his health and well-being?
   a. Divalproex (Depakote) for agitation
   b. Sertraline (Zoloft) for depression
   c. Risperidone (Risperdal) for psychosis
   d. Diazepam (Valium) for insomnia

10. Which of the following best describes the risk that antipsychotics pose to patients with dementia that prompted the FDA boxed warning?
   a. These agents can cause metabolic syndrome
   b. These agents can increase the risk of death
   c. These agents can increase the risk of suicide
   d. These agents can increase the risk of falls

11. JM’s daughter notices a pharmacist looking at her dad's chart and inquires what he is reviewing. Which of the following would be the appropriate response based on the regulatory expectations for any "first dose" order established by CMS for long-term and skilled nursing facilities?
   a. Ensuring 3-day prescribing limit for PRN hydrocodone/APAP
   b. Ensuring 30-day prescribing limit for PRN diphenhydramine
   c. Ensuring 14-day prescribing limit for PRN risperidone
   d. Ensuring 0 prescribing for PRN lorazepam

12. Which of the following non-pharmacologic approaches can the pharmacist engage in that will decrease the risk of developing dementia for patients?
   a. Become academic educators to promote appropriate use of antipsychotics
   b. Recommend curative interventions in early treatment
   c. Advocate for prevention: healthy heart and healthy brain
   d. Facilitate support groups to improve early detection