Overview

- Behavioral disturbance is common
  - ~ 90% of patients with cognitive impairment will have ≥ 1 sign or symptom[1]
  - Expensive
- Little evidence on how to best manage symptoms of behavior disturbances in cognitively impaired older adults
- Behavioral disturbance often leads to nursing home placement, worsens caregiver/family distress, leads to worse overall health outcomes

Objective 1: Identify Signs and Symptoms

- Variable presentation[2]
  - Lethargy
  - Sleep disturbance/insomnia
  - Poor appetite/PO intake/weight loss
  - Psychological disturbance (anxiety, depression, apathy)
    - Apathy can be harder to recognize
  - Psychotic features (visual/auditory hallucinations)
  - **Aggression, agitation**

Objective 1: Identify Signs and Symptoms

- Time course difficult to predict
- Acute changes are more indicative of acute illness, medication change
- Fluctuating course
- Seen in later stages of dementia

Objective 1: Identify Signs and Symptoms

- Identify and thoroughly describe signs and symptoms
  - Where (home, store, etc.), when (nighttime, morning, bathing, meals, after meds, etc.)
  - Precipitating events (environment, pain, hunger, recent stressors etc.)
  - Resistance to care
  - Physical disruption - usually later stages of dementia
- Remember, "little things" can be stressors!

Case # 2

- Ms. Smith always gets agitated around dinnertime.
- She tells her daughter "I hate broccoli" and then proceeds to throw broccoli on the floor.
- Her daughter reports no other new symptoms, or medication changes.
- You complete a comprehensive examination and find no evidence of underlying medical problem or medication change. What is the next best step?

Objective 2: Identify Underlying Conditions

- 1. Medications
  - Don't forget supplements
- 2. Needs (hungry, tired, pain, etc.)
- 3. Medical Conditions (infection, cardiac disease, diabetes, constipation)
- 4. Environmental Precipitant (changes in routine, caregiver change, life stressor)
- 5. Caregiver burden – both in NH and at home
- 6. New condition, or related to worsening dementia

Objective 2: Identify Underlying Conditions

- Comprehensive Geriatric Assessment
  - Caregiver input
- Thorough medication review
  - Look for drug-drug interactions, drug withdrawal (specifically mood altering medications, anti-cholenergics)
- Labs
  - CBC, CMP
  - Caution ordering UA/UC, if no other symptoms
  - Special tests (cardiac enzymes, CXR, etc.)

Objective 3: Management Strategies

- Non-pharmacologic treatment should always be tried FIRST!
  - Except in emergency situations
- Implementation of non-pharmacologic treatment is hard
  - But recommended my multiple professional societies
    - AGS, APS, etc.
  - Less support and training for non-pharmacologic strategies

Objective 3: Management Strategies

- 1. Treat underlying medical/pharmacologic condition and/or need
- 2. Environmental
  - Identify and avoid (try) precipitants
  - Stick to a routine, structured activities (adult daycare)
    - Encourage activities of interest, or that have repetitive motions
  - Ensure patient has glasses, teeth, hearing aides
  - Music, pet therapy, exercise, remove dangerous items
- 3. Caregiver education
  - Communication skills, distraction, activities
  - Redirection/distraction, relax rules

DICE APPROACH[3]

- Describe
  - Caregiver describes problems
- Investigate
  - Possible causes of problem behavior (underlying medical problem, etc.)
- Create
  - Collaborate to create and implement treatment plan
- Evaluate
  - For efficacy and safety

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Resources

- Consult Social Work
  - Alzheimer's Association
    http://www.alz.org/
  - Department on Aging
    http://www.cityofchicago.org/city/en/depts/fss/provdrs/senior.html
  - Respite

Objective 4: Pharmacologic Strategies

- Choice of medication should be based on clinical features of behavioral disturbance
  - Mood changes (depression)
  - Insomnia
  - Psychotic symptoms (delusions, hallucinations, mania)

Objective 4: Pharmacologic Strategies (Mood Changes)

- If mood changes are present for at least 2-3 weeks, reasonable to start a trial of an antidepressant
- Trial for 8-12 weeks with each medication
  - Make sure to communicate this with patient/caregiver
- If not benefit, another medication should be tried
- Consider augmentation if partial response to initial therapy
- Electroconvulsive therapy – Geriatric Psychiatry

Objective 4: Pharmacologic Strategies (Mood Changes)

Medication	Specific Benefits	Side effects/Risks
Citalopram (SSRI)	Evidence of benefit	GI upset, insomnia, QT prolongation with high doses (>20 mg)
Sertraline (SSRI)	Evidence of benefit	GI upset, less than others
Paroxetine (SSRI)		Anticholinergic effect
Mirtazapine (SNRI)	Insomnia, Increases appetite	Sedation
Buproprion (SNRI)	Activating – use in AM	Insomnia, Irritability

Objective 4: Pharmacologic Strategies (Insomnia)

- Can occur as a symptom of depression/psychosis
- Sleep hygiene
  - Education of caregivers!
  - Need a structured routine
  - Environment
    - Daytime exposure to light
    - Nighttime (cool, calm, minimize light, noise)
  - Manage medications (diuretics)
    - Eliminate caffeine
  - Pain control
    - Try acetaminophen before bed

Objective 4: Pharmacologic Strategies (Insomnia)

Medication	Specific Benefits	Side effects/Risks
Mirtazapine	Also treats depression	Sedation
Trazodone	In higher doses can treat depression	Sedation, falls
Gabapentin	Also treats anxiety	Sedation, falls
Zolpidem	Some evidence regarding effectiveness	Short half life, only use 5 mg
Melatonin	Over the counter	Fairly benign

Objective 4: Pharmacologic Strategies (Insomnia)

- Do **NOT** use benzodiazepines (consistently been shown to increase fall risk, worsen cognition overtime, etc.)
- Do NOT use antihistamines (diphenhydramine)
  - Be aware of "Tylenol PM" – this has diphenhydramine!

Objective 4: Pharmacologic Strategies (Psychotic Symptoms)

- Psychotic symptoms/disturbances
  - Impulsivity, hyperactivity, delusions, hallucinations, hypersexuality
- Alzheimer's dementia with behavioral disturbance or psychosis
  - Technically needs to be present for over a month period
- Antipsychotics
  - 2nd generation preferable over 1st generation
    - Less extrapyramidal side effects
  - Start low and go slow!

Objective 4: Pharmacologic Strategies (Psychotic Symptoms)

Antipsychotic	Starting dose	EPS	Sedate	Other
Haloperidol 1st gen	0.25 mg PO (Peaks at 2-6 hours)	++++	++	Avoid in Parkinson's
Quetiapine 2nd gen	12.5 or 25 mg PO (Peaks at 1.5 hoursrs; steady state at 2 days)	0	+++	Eye exam for cataracts (q6 months) Renal impairment prolongs elimination half-life
Risperdal (Risperdone)	0.25 mg (increase by .25 or 0.5, adjust at 24 hours) (Peaks in 1-2 hours)	0/+	++	Potential QT prolongation Renal impairment prolongs elimination half-life
Aripiprazole	10-15mg oral Peak 3-5 hours oral, steady state in 2 weeks. Usually adjust after 3 weeks	0	+	Used as adjunct for depression Give in AM

Objective 4: Pharmacologic Strategies (Psychotic Symptoms)

- May not affect several aspects of behavioral disturbance such as poor self-care, memory problems, wandering, unfriendliness, functional status, quality of life
- All cause sedation, hypotension, and falls
- Can increase risk of hyperglycemia, stroke, heart attack, death "black box warning"
  - Increased risk of death in several controlled trials
    - www.fda.gov/
- However, need to take in account risk/benefit ratio
- Needs continual reassessment

Conclusions

- Behavioral disturbance is very common in all types of dementia
- Must rule out an underlying medical condition or unattended need (pain, hunger, thirst)
- Non-pharmacologic interventions should ALWAYS be tried first and focus on prevention, and relieving stress for patient and caregivers
- D (Describe), I (Investigate), C (Create), E(Evaluate)[3]
- Remember caregiver education and support is key!

Conclusions

- Pharmacologic therapy has been associated with increased mortality
- Pharmacologic therapy can be useful for symptoms such as hallucinations, delusions
- Black Box warning on all antipsychotics
  - Not FDA approved for this indication
- However, little benefit in over all quality-of-life
  - Must assess Risk/Benefit profile with patient, family and caregivers

References

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- Neuropsychiatric symptoms in Alzheimer's disease. *Alzheimers Dement.* 2011;7:532-539
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