Pharmacologic Management of Dementia
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Objectives
• Discuss current medical treatment for Alzheimer's disease and dementia.
• Determine when adjunct therapies (antidepressants, antipsychotics, etc.) are necessary

Dementia
Problem with memory and thinking

Types of dementia
• Alzheimer’s disease
• Dementia with Lewy Bodies
• Frontotemporal Dementia (Pick’s disease)
• Vascular Dementia
Alzheimer’s disease

- Affects more than 5 million Americans
- Most common form of dementia
- By 2050, 14 million people will be affected due to our aging population
- Diagnosed between 40-90 years of age
- Neurodegenerative disorder affecting memory and activities of daily living

Dementia with Lewy Bodies

- Lewy bodies found in brain at autopsy
- Typical features:
  - Visual and/or auditory hallucinations
  - Delusions
  - Parkinsonism
  - Later-life onset

Frontotemporal Dementia

- Hallmark: Early behavioral changes
  - Sexually inappropriate behavior
  - Poor hygiene
  - Disinhibition
  - Perseverative behavior
- Visuospatial and calculation skills preserved
Vascular Dementia

- Stepwise progression of memory changes
- Due to vascular disease affecting the brain
  - Transient Ischemic Attack (mini-strokes)
  - Stroke
- Accompanying symptoms:
  - Early gait disturbance
  - Frequent falls
  - Personality changes
  - Depression

Delirium vs. Dementia

- Delirium
  - Acute onset
  - Confusion and/or altered state of consciousness
  - Treatable
- Dementia
  - Gradual, progressive memory changes
  - Manage symptoms
  - Neurodegenerative disease

Causes of Delirium

D Dementia
E Electrolyte disorders
L Lung, liver, heart, kidney, brain
I Infection
R Rx drugs
I Injury, Pain, Stress
U Unfamiliar environment
M Metabolic
Treatment

• **Treatment goal:**
  Slow the progression of Alzheimer’s disease
• **Two medication classes:**
  – Cholinesterase inhibitors
  – N-methyl-D-aspartate (NMDA) receptor antagonist

Cholinesterase Inhibitors

• Acetylcholine aids in memory formation
• Increasing the amount of acetylcholine available to neurons, by inhibiting acetylcholinesterase from breaking down acetylcholine, is thought to aid memory formation
• Medications:
  – Aricept (donepezil)
  – Razadyne (galantamine)/Razadyne ER (galantamine)
  – Exelon (rivastigmine)

Cholinesterase Inhibitors

• Positive effect on:
  – Cognition
  – Function
  – Behavior (delay onset of disruptive behaviors)
• Side-Effects
  – GI (nausea, diarrhea, anorexia)
  – Headache
  – Muscle cramps
  – Bradycardia
  – Sleep disturbances (Aricept)
NMDA Receptor Antagonist

• NMDA receptor antagonist
• Activation of NMDA receptors in the central nervous system by glutamate has been thought to contribute to the symptoms of Alzheimer’s disease
• Decreasing the activity of glutamate decreases over activation of NMDA receptors and decreases transmission of abnormal signals
• Medication
  – Namenda (memantine), Namenda XR (memantine)

NMDA Receptor Antagonist

• Positive effects same as cholinesterase inhibitors
• Side-effects:
  – Headache
  – Constipation
  – Confusion (approx. day 21, usually goes away)

Combination Therapy

• Namzaric
  – Contains
    • Namenda XR (memantine) 14mg, 28mg
    • Aricept (donepezil) 10mg
  – Frequency: Daily
  – Need to be stable on both medications 3 months prior to initiating
Other Treatment

• Axona (medical food)
  – Increases ketones in the brain to improve neuronal activity in mild and moderate AD
  – Not very well tolerated—GI side effects (gas, diarrhea, abdominal pain)

Cholinesterase Inhibitors

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<tr>
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<td>Reduce vascular risk factors</td>
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<td>Risperdal not recommended</td>
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<td>Frontotemporal Dementia</td>
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<td>Manage behaviors</td>
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Managing Neuropsychiatric Symptoms

• Challenging behaviors:
  – Depression
  – Anxiety
  – Confusion
  – Agitation
  – Aggression
  – Pacing/wandering
  – Hallucinations
  – Sleep disturbances
  – Sundowners
Managing Neuropsychiatric Symptoms

• Look for triggers
  – Change in environment
  – Fecal impaction
  – Pain
  – Infection

Non-pharmacologic Strategies for Neuropsychiatric Symptoms

• 3 R’s
  – Repeat
  – Redirect
  – Reassure
• Music therapy
• Art therapy
• Pet therapy
• Group activities

Non-pharmacologic Strategies for Neuropsychiatric Symptoms

• Provide predictable routine
• Allow patient to dress in his/her own clothing and keep possessions
• Simplify tasks (one-step instructions)
• Safe environment
• Use calendars, clocks, newspapers for orientation
• Reduce excess stimulation
Pharmacologic Treatments for Neuropsychiatric Symptoms

- Anti-depressants
  - Selective Serotonin Reuptake Inhibitors (SSRIs)
    - Zoloft (sertraline)
    - Lexapro (escitalopram)
    - Celexa (citalopram)
  - Selective Serotonin Norepinephrine Reuptake Inhibitors (SSNRIs)
    - Remeron (mirtazapine)
    - Effexor (venlafaxine)

- Anti-psychotics (atypicals)
  - Risperdal (risperidone)
  - Seroquel (quetiapine fumarate)

- Black-Box Warning
  - FDA (2005)—Patients with dementia-related psychosis treated with atypical and conventional antipsychotic drugs are at an increased risk of death

- Considerations
  - Last resort use
  - Education patient/family
  - Document

- Sleep agents
  - Melatonin (over-the-counter)
  - Trazodone
  - Remeron (mirtazapine)
  - Seroquel (quetiapine fumarate)
References