# DEPRESSION

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# DISCLOSURES:

No financial disclosures/conflicts of interest to disclose

# OBJECTIVES:

- Define Major Depressive Disorder
- Define Depression Symptoms
- Outline Depression Screening Tools
- Outline Differential Diagnosis
- Discuss pharmacologic treatment options
  - Not all SSRIs are created equal (especially in geriatric population)
- Discuss Non-pharmacologic options
- Discuss Common Pitfalls
- Question and Answers

# DEFINITIONS:

DSM-5:

Individual must be have **5** or more symptoms during the same **2-week period**

*and at least one of the symptoms should be either*

(1) depressed mood or (2) loss of interest or pleasure.

- **Depressed mood most of the day, nearly every day.**
- **Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.**
- **Significant weight loss when not dieting or weight gain, or decrease or increase in appetite nearly every day.**
- **A slowing down of thought and a reduction of physical movement (observable by others, not merely subjective feelings of restlessness or being slowed down). (Psychomotor retardation)**
- **Fatigue or loss of energy nearly every day.**
- **Feelings of worthlessness or excessive or inappropriate guilt nearly every day.**
- **Diminished ability to think or concentrate, or indecisiveness, nearly every day.**
- **Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.**

# DEFINITIONS:

DSM-5:

These symptoms must cause the individual clinically significant distress.

Impairment in social, occupational, or other important areas of functioning.

The symptoms must also not be a result of substance abuse (medications) or another medical condition.

# SYMPTOMS:

# SCREENING TOOL/ALPHABET SOUP

- PHQ-2 (Patient Health Questionnaire -2 questions)
  - The PHQ-2 has sensitivity comparable with the PHQ-9 in most populations;
  - However, the specificity of the PHQ-9 ranges **from 91% to 94%**, compared with **78% to 92%** for the PHQ-2. (aafp.org)
- PHQ-9 (9 questions)
- GDS (Geriatric Depression Scale)
  - 15 item test, indicative of depression if score above 5, highly likely if above 10.
- CDS (Clinical Depression Scale) Can be self administered
  - https://psymed.info/clinical-depression-test
- SIG E CAPS
  - Need 1-2 major symptoms plus 3-4 minor symptoms
- SAS (Suicide Assessment Screen) important if patient is endorsing thoughts of death and dying,
  - Should screen for suicide risk in new diagnosis of depression, or worsening symptoms.

# DIFFERENTIAL DIAGNOSIS

- Dysthymia
- Psychosis
- Bipolar Disorder
- Major neurocognitive disorder
- Thyroid Disorders
- Infection (i.e. Mononucleosis)
- Sleep apnea
- Cardiac Disease
- Medication side effects (benzos, gabapentin)
- Substance Abuse (EtOH, Stimulant abuse)
- Cerebrovascular Disease
    - Pseudobulbar Affect
- Delirium (especially hypoactive)
- Many more…

# PHARMACOLOGIC TREATMENTS

**SSRIs are considered 1st line drug therapy**

More favorable side effect profile.

Well studied (over 30 Placebo controlled RCTs)

**Not all SSRIs are equal**

- **Sertraline: modest NE and dopamine effect, minimal drug interactions, short half life, activating**
- **Escitalopram and citralopram: Excellent choices if multiple meds already, little CYP involvement**
- **Fluoxetine: active metabolite norfluoxetine half life of 6-9 days, high CYP involvement.**
- **Paroxetine: greater risk of causing cognitive impairment, anticholinergic properties (though better than TCAs). CYP 2D6 inhibitor.**

Pollock, B. Semla, T. Forsyth, C. Psychoactive Drug Therapy. Hazzard's Geriatric Medicine and Gerontology 6th Edition. 767-772. 2009.

# CAUTIONS WITH SSRI USE

Increase risk of bleeding, especially with NSAIDs, Anticoagulation

Bradycardia

Serotonin Syndrome, especially if multiple agents being used, MAOIs

Hyponatremia

Extrapyramidal symptoms, in Parkinson's

Falls/fractures

Suicide Risk (especially within the 1st month of use)

Pollock, B. Semla, T. Forsyth, C. Psychoactive Drug Therapy. *Hazzard's Geriatric Medicine and Gerontology* 6th Edition. 767-772. 2009.

# PHARMACOLOGIC TREATMENTS

**Non-SSRIs**

- **Bupropion: well tolerated in ill patients, smokers, neuropathy, caution with seizures, psychosis**
- **Duloxetine: SNRI, great for concomitant neuropathy, stress incontinence, caution with heart patient due to norepinephrine effects.**
- **Mirtazapine: SNRI-Like, great in frail patients, helps with sleep and boosts appetite. Less data on safety, caution in memory patients.**
- **Venlafaxine: SNRI, studies suggest appropriate in late life GAD, good for pain, atypical depression, less tolerated than sertraline, caution with hypertension, consider for Non-responders to SSRIs.**
- **TCAs: (amitriptyline, nortriptyline), not favored, especially in older population 3rd line therapy.**
  - **Anticholinergic, dizziness, falls, orthostasis, sedation, blurred vision, constipation, heart block.**
- **MAOIs: 4th line therapy,**

Pollock, B. Semla, T. Forsyth, C. Psychoactive Drug Therapy. *Hazzard's Geriatric Medicine and Gerontology* 6th Edition. 767-772. 2009.

# ADJUNCTIVE THERAPIES

Atypical antipsychotics

apiprazole, olanzapine, quetiapine

Mood stabilizers

lamotrigine, valproic acid

Caution with benzodiazepines to treat associated anxiety (should be only for short term use.

# NON-PHARMACOLOGIC THERAPIES

Meditation/Spiritual Support

Yoga/physical activity regimen

Craniosacral

Counseling in clinic/mentoring/family support

Psychotherapy/Cognitive Behavioral Therapy (CBT)

Electroconvulsive Therapy (ECT), repetitive transcranial magnetic stimulation (rTMS)

Vagus Nerve Stimulation

**Non-Pharmacologic Interventions for Treatment-resistant Depression in Adults — Research Protocol Document. Dec. 2009.**
https://effectivehealthcare.ahrq.gov/products/treatment-resistant-depression/research-protocol

# SOURCES

**Shelton, J. Depression Definition and DSM-5 Diagnostic Criteria.** https://www.psycom.net/depression-definition-dsm-5-diagnostic-criteria/. Mar 19, 2019.

Pollock, B. Semla, T. Forsyth, C. Psychoactive Drug Therapy. *Hazzard's Geriatric Medicine and Gerontology* 6th Edition. 767-772. 2009.

# DEMENTIA

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# OBJECTIVES:

- Define Dementia
- Define and Outline Dementia Screening Tools
- Discuss Staging Tools.
- Outline Differential Diagnosis
- Review risk factors
- Types of dementia
- Discuss pharmacologic treatment options
- Discuss Non-pharmacologic options with behavioral disturbance
- Discuss Common Pitfalls
- Question and Answers

# DEMENTIA DEFINITION

DSM-5: Major neurocognitive disorder/ dementia (loss of mind) later in life typically seen at or after 7th decade.

- Impairment Functional (IADLs/ADLs) and cognitive domain must be involved

Compare to Mild Cognitive Impairment

- Cognitive domain impairment not impacting function.

Compare to amentia

- Absent of mind, intellectual disability from early in life.
- Key differences are in history.

# DEMENTIA DIFFERENTIAL

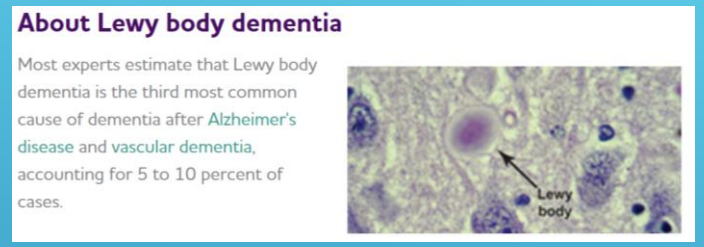
- Dementia is an umbrella term with multiple causes
- Depression other psychiatric disorders
- Amentia
- Nutritional deficiencies,
- Primary and metastatic cancer
- Thyroid dysfunction
- Medication side effect
- Sleep disorder
- Vascular disease
- Infection
- Protracted delirium
- Traumatic Brain Injury
- Seizure Disorder
- Alcoholism
- Stress

- Start thinking subtypes

- Work up: really good history and physical examination focus on neuro exam (especially cognitive), Labs: CMP, TSH, CBC-Diff, consider based on history: syphilis, HIV, heavy metal, vitamin levels,  MRI of Brain, very rare that PET scan will be beneficial (ask question, Will this change treatment?)

# TYPES OF DEMENTIA/NEUROCOGNITIVE DISORDERS

- Alzheimer's (most common)
- Vascular
- Mixed type
- Parkinson's
  - Parkinson's Plus:
    - Progressive Supranuclear Palsy
    - Multi-system Atrophy/Shy-Drager's Syndrome
- Lewy Body
- Frontotemporal (Pick's Disease)
- Creutzfeldt-Jakob
- Normal-Pressure Hydrocephalus
- Posterior Cortical Atrophy
- Alcohol induced dementia (multiple etiologies for dementia)
  - Korsakoff Syndrome
  - Direct toxic effect on brain cells
  - Biologic stress of intoxication and withdrawal
  - EtOH related cerebrovascular disease
  - Head injuries when intoxicated
- B12 Deficiency
- Huntington's




Dementia types. https://www.alz.org/alzheimers-dementia/what-is-dementia/types-of-dementia

# TYPES OF DEMENTIA/NEUROCOGNITIVE DISORDERS

- Age (cumulative effect of stress on brain cells over one's lifetime)
- Alcohol Abuse
- Low education
- Down's Syndrome (trisomy 21)
- Family history
- History of head trauma, seizure, stroke
- Longstanding use of anticholinergic meds effects. Certain Psychotropics
- Atherosclerosis
  - Smoking
  - Hypertension
  - Hypercholesterolemia
  - Diabetes
- Sleep apnea
- Exposure to Anesthesia
- Sepsis
- Delirium events (severity and duration)
- Any thing that causes decline in overall health can reduce efficiency of the mind.

# SCREENING FOR DEMENTIA

- Mini-cog, tests attention, immediate and intermediate recall (5min), visuospatial/executive function
  - 3 item recall, clock draw
- Test Your Memory (TYM)
  - Self test.

- Mini-mental State Exam
  - Most widely used/studied (though this changing)
  - Also 30 item lower sensitivity, may not pick up mild cognitive impairment as easily,
  - Copyrighted, should be paying for use

- Montreal Cognitive Assessment
  - Consider if MMSE is unhelpful (normal or near normal score).
  - MoCA 30 item, multi-domain. Available in multiple languages. Adjustment for education. Highest sensitivity, though specificity is lower (higher false positive rate)
  - Not meant for self assessment, also copyrighted though no charge.

- St. Louis University Mental Status (SLUMS)
  - More sensitive than MMSE, multi-domain, stratifies score for education level.

- Neuropsychologic testing: consider when inconclusive screening present, assesses behavior/emotional components and learning style.

# STAGING

- Key to staging, how has cognition impacted function. Multiple staging tests available.
- Cognitive exams can be challenging especially if scoring 15 or less on MOCA/MMSE
- Dementia Severity Rating Scale (DSRS)
- 54 items, can take significant time to answer questionnaire.
- Functional Assessment Severity Test (FAST Scale)
- Typically used for Alzheimer's though functional loss pattern is seen in most dementia types.
- 7 main stages, sub-stages in 6 and 7. Very quickly can pinpoint severity and prognosis.

| Stage | Stage Name | Characteristic | Untreated AD Duration (months) | Mental Age (years) | MMSE (score) |
|---|---|---|---|---|---|
| 1 | Normal Aging | No deficits whatsoever | -- | Adult | 29-30 |
| 2 | Possible Mild Cognitive Impairment | Subjective functional deficit | -- | | 28-29 |
| 3 | Mild Cognitive Impairment | Objective functional deficit interferes with a person's most complex tasks | 84 | 12+ | 24-28 |
| 4 | Mild Dementia | IADLs become affected, such as bill paying, cooking, cleaning, traveling | 24 | 8-12 | 19-20 |
| 5 | Moderate Dementia | Needs help selecting proper attire | 18 | 5-7 | 15 |
| 6a | Moderately Severe Dementia | Needs help putting on clothes | 4.8 | 5 | 9 |
| 6b | Moderately Severe Dementia | Needs help bathing | 4.8 | 4 | 8 |
| 6c | Moderately Severe Dementia | Needs help toileting | 4.8 | 4 | 5 |
| 6d | Moderately Severe Dementia | Urinary incontinence | 3.6 | 3-4 | 3 |
| 6e | Moderately Severe Dementia | Fecal incontinence | 9.6 | 2-3 | 1 |
| 7a | Severe Dementia | Speaks 5-6 words during day | 12 | 1.25 | 0 |
| 7b | Severe Dementia | Speaks only 1 word clearly | 18 | 1 | 0 |
| 7c | Severe Dementia | Can no longer walk | 12 | 1 | 0 |
| 7d | Severe Dementia | Can no longer sit up | 12 | 0.5-0.8 | 0 |

FAST Scale: http://www.mciscreen.com/pdf/fast_overview.pdf

# PHARMACOLOGIC TREATMENT OPTIONS

- Remove if possible the offending cause.
- Key to treatmenr is to improve or maintain cognitive function
- Pros and Cons
  - Benefits and common side effects
- Donepezil
- Memantine
- Rivastigmine
- Galantamine
- Combination of these meds.
- Several ongoing studies/clinical trials.

# NON-PHARMACOLOGIC TREATMENT OPTIONS

- Exercise and Diet
  - MIND Diet
    - Data from Rush University (citation needed)
- Brain games, social interaction, art/music therapy
- Maintaining support at home to avoid decline in health, support deficient IADLs/ADLs
- DICE Approach to Neuropsychiatric Symptoms (Describe, Investigate, Create, Evaluate)
  - Citation needed
- Prepare for the next stages.
  - Advance Directives.
  - If cognition is evolving so can ability to make decisions
  - Does the patient still have capacity to understand their disease, role of advance directives, financial decisions?
  - Driving evaluation (know your state's mechanisms),
    - typically below 20/30 on cognitive screening tests there are signs, multiple accidents, getting lost.
  - Ability to stay safe at home
  - There is often an conflict between safety and independence.
  - Adult protective services if patient is vulnerable and

# SOURCES

FAST Scale: http://www.mciscreen.com/pdf/fast_overview.pdf