Geriatric Psychiatry

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What are the differences between older and younger persons with mental illness?

**Assessment is different**: e.g., cognitive assessment needed, recognize sensory impairments, allow more time

**Symptoms of disorders may be different**: e.g., different symptoms in depression

**Treatment is different**: e.g., different doses of meds, different psychotherapeutic approaches

**Outcome may be different**: e.g., psychopathology in schizophrenia may improve with age
<table>
<thead>
<tr>
<th>DSM Disorders (in order of frequency)</th>
<th>12-month prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety Disorders (phobic disorders, gen anx, panic)</td>
<td>6%-12% female&gt;male</td>
</tr>
<tr>
<td>Dementia</td>
<td>5-10% female&gt;male</td>
</tr>
<tr>
<td>Major depression</td>
<td>1-2% female&gt;male</td>
</tr>
<tr>
<td>Dysthymic disorder</td>
<td>2% female&gt;male</td>
</tr>
<tr>
<td>Alcohol abuse /dependence</td>
<td>1% male&gt;female</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0.3-0.5% male=female</td>
</tr>
<tr>
<td>Bipolar</td>
<td>0.3% male=female</td>
</tr>
<tr>
<td>Any DSM disorder</td>
<td>12% female&gt;male</td>
</tr>
</tbody>
</table>
OVERVIEW: Consider main syndrome & comorbid conditions

Psychotic depression

Schizophrenia with depression

Schizophrenia with cognitive deficits

PDD, LBD, AD, VaD with psychotic sx

Vascular depression with mild cognitive impairment

MCI with depression

Dementia with depression

PD with depression

PDD, LBD, PD+ with cognitive deficits

PDD, LBD, AD with movement sx

Schizophrenia with movement disorders

Psychotic depression

Depression with dementia ("pseudodementia")

Vascular depression with mild cognitive impairment

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PDD, LBD, AD with movement sx

Schizophrenia with movement disorders
SYMPTOM OVERLAP:
OVERVIEW

- Depression
- Psychosis
- Dementia
- Movement disorders
Depression is the most frequent cause of emotional suffering in later life and frequently diminishes quality of life.

A key feature of depression in later life is **COMORBIDITY**---

e.g., with physical illness such as stroke, myocardial infarcts, diabetes, and cognitive disorders (possibly bi-directional causality)
Depressive symptoms are less frequent or no more frequent than in middle life. However, may be due to under-reporting, survivor effect, and case finding.

Clinically significant depression in community dwelling elderly: 8% to 16%, with major depression being about 2%. The 1-year incidence of clinically significant depression is highest in those age 85+--13%.

Depressive mood disorders decrease with age but depressive symptoms are more frequent among the old-old (age 75+) but may be due to factors associated with aging such as higher proportion of women, more physical disability, more cognitive impairment, and lower income. When these factors are controlled, there is no relationship with age.
Prevalence of depression among older persons in various settings:

Medically and surgically hospitalized persons—major depression 10-12% and an additional 23% experiencing significant depressive symptoms.

Primary Care Physicians: 5-10% have major depression and another 15% have minor or subsyndromal depression. PCPs may not be aggressively identifying and treating depression.

Long-Term Care Facilities: 12% major depression, another 15% have minor depression. Only half were recognized.

Approximately one-fourth of medically ill persons suffer from clinical depression!
Major Depression

Similar across lifespan but there may be some differences. Among older adults:

- **Psychomotor disturbances** more prominent (either agitation or retardation),
- Higher levels of **melancholia** (symptoms of non-interactiveness, psychological motor retardation or agitation, weight loss)
- Tendency to talk more about **bodily symptoms**
- **Loss of interest** is more common
- **Social withdrawal** is more common
- **Irritability** is more common
- **Somatization** (emotional issues expressed through bodily complaints) is more common
Emphasis should be:

- **less** on dysphoria (depressed mood) and guilt
- **more** on fatigue, sleep and appetite changes, vague GI complaints, somatic worries, memory or concentration problems, anxiety, irritability, apathy, withdrawal.

**DSM IV for major depression is problem because it essentially eliminates persons with any comorbid illnesses** (i.e., excludes symptoms that are clearly due to “direct physiologic effects of general medical condition.”)
Some investigators have suggested that older adults are more prone to "depression without sadness" or a depletion syndrome manifested by withdrawal, apathy, and lack of vigor.
# Depression in Clinical Population of Depressed Persons Aged 55+

## Follow-Up: 33 Months Median

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Not Depressed (CESD &lt; 8) at follow-up (n = 40)</th>
<th>Subclinical depression (CESD 8-15) at follow-up (n=37)</th>
<th>Clinical depression (CESD ≥ 16) at follow-up (n=66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not depressed (CESD &lt; 8) at baseline (n = 88)</td>
<td><strong>38%</strong></td>
<td><strong>31%</strong></td>
<td><strong>32%</strong></td>
</tr>
<tr>
<td>Subsyndromally depressed (CESD 8-15) at baseline (n = 30)</td>
<td><strong>10%</strong></td>
<td><strong>30%</strong></td>
<td><strong>60%</strong></td>
</tr>
<tr>
<td>Syndromally depressed (CESD ≥ 16) at baseline (n = 25)</td>
<td><strong>16%</strong></td>
<td><strong>4%</strong></td>
<td><strong>80%</strong></td>
</tr>
</tbody>
</table>
Treatment of Depression in Older Adults

- Use same antidepressants as younger patients—however, start low, go slow, keep going higher, and allow more time (if some response has been achieved, may allow up to 10-14 weeks before switching meds).

- Older patients may have a shorter interval to recurrence than younger patients. Thus, they may need longer maintenance of medication.

- Data are not clear if the elderly are more prone to relapse.
KEY TREATMENT STUDIES

• 1. High risk older depressed pts (those with recurrent depression). Results: maintenance Rx with combination of meds & psychotherapy > meds alone > placebo. (Reynolds et al, JAMA. 1999;281:39-45.)

• 2. Persons aged 70+ (mostly first episodes) who have responded to antidepressants, did better if maintained on medication (65% no recurrence) vs placebo (32% no recurrence) over 2 yrs. (note: psychotherapy didn’t provide additional protection in this study). (Reynolds et al, NEJM 2006; 354:1130-38)

Rationale: Among primary care patients with depression, only a small fraction receives adequate treatment in primary care or sees a mental health specialist. Although treatment of depression in primary care has improved, few improvements deal with the specific needs of elderly patients.

IMPACT STUDY: Care team consisted of a depression care manager (usually a primary care nurse), the patient's primary care doctor, a consulting psychiatrist, and a liaison primary care doctor. For 12 months, IMPACT patients received proactive depression treatment in primary care. Treatment options included pharmacotherapy, and two behavioral therapy approaches. Consulting psychiatrists saw about 10% of patients, typically treatment non-responders.

RESULTS: 45% of intervention patients had a 50% or greater reduction in depressive symptoms from baseline compared with 19% of usual care participants.
Antidepressants

• Among antidepressants, citalopram, sertraline, venlafaxine, mirtazapine, buproprion, and duloxetine have minimal drug-drug interactions. Paroxetine and fluoxetine have most. **Try to avoid the latter two drugs with older persons.**

• Venlafaxine, duloxetine, fluoxetine and buproprion are most activating, sertraline is slightly activating, citalopram is neutral, and paroxetine is mildly sedating, and mirtazapine and trazadone are very sedating.

• Paroxetine may cause mild anti-cholinergic effects and mirtazapine causes more pronounced effects.

• Mirtazapine(moderate) and trazadone(high) have higher rates of orthostatic hypotension.
Risk of SSRIs

1. Possible increased risk of bleeding
2. Hyponatremia – SIADH
3. Osteoporosis
Factors Possibly Associated with Reduced Antidepressant Response

- Older age (>75 yrs)
- Lesser severity
- Late onset (>60)
- First episode
- Anxious depression
- Executive dysfunction
Treatment for Depression with Executive Dysfunction or Cognitive Dysfunction

- Problem solving therapy more effective than supportive therapy (Alexopoulos et al, 2011).

- Problem solving identifies problems central to their lives and methods for selecting solutions and making concrete plans for problem solution.

- Donepezil given to MCI patients who had responded to antidepressant and maintained on antidepressant: less likely to progress to dementia but greater likelihood of depression recurrence (Reynolds et al, 2011).
Psychotherapy

Originally thought to be ineffective over 50, e.g., Freud
Controlled trials indicated useful for:

- Major and minor depression
- Recurrent depression, especially with meds
- Prevent depression after stroke
- Good evidence for Cognitive Behavior Therapy, Reminiscence and Life Review, Interpersonal Therapy, Problem Solving, Psychodynamic, Dialectical Behavioral Therapy (as adjunct to meds), Bibliotherapy (mild types) (Frazier et al, 2005)
Other Modalities

1. Exercise
2. Bright light (especially in nursing homes)
3. ECT
4. rTMS (not strong evidence)
5. Folate
Suicide: Increases with Age

FIGURE 3. Rates of Completed Suicide*68
*In the United States, 1994
Suicide the frequency is highest for older white males at 62/100,000. –6x more common in older white males than in the general population. Older African American females have lowest rate.
Overall: Suicide rates for African Americans and Latino elders have been lower than whites, whereas rates among Japanese, Chinese, and Korean American elders are comparable to whites.

- Risk factors include depression (usually under- or untreated), hopelessness; family history of mood disorders; loneliness (especially widowers); access to handguns; insufficient social support; physical illness and/or disability; low income; experiencing stressful life events such as financial problems or interpersonal discord; previous attempts.

- Firearms are now most common method; 2\textsuperscript{nd} is drug ingestion. (Attempts are more lethal in elderly: 1 in 4 suicide attempts succeed vs 1 in 25 in younger adults)

***80\% of persons who commit suicide consulted a physician in prior month; 40\% within one week.***
Bereavement (loss of a love one through death)

Grief (psychosocial reaction to any loss such as depression, anxiety, guilt, anger, etc)

- Approximately 800,000 older Americans are widowed each year.

- Acute grief: traumatic distress, separation distress, guilt/remorse, social withdrawal, preoccupation with images of dead person—approximately 6 months—leads to Integrated Grief as a background state (reestablish interests, accessibility of memories of deceased but not preoccupied, more positive emotions)
• Prolonged (also termed “complicated,” “traumatic”) grief: instead of transition form acute to integrated grief person fails to accept the death, guilt persists, overlap with major depression and/or PTSD

• Very high levels of symptoms after 1 month—about two-fifths meet criteria for major depression; in one study, at one year, 16% met criteria for major depression. Thus, roughly between 10-20% of widows develop clinically significantly depression in the first year of bereavement.

• The presence of any substantial symptoms of depression at 2 months after a loss was associated with a significant increased risk of continued problems with depressive spectrum disorders. Other risk factors include personal/family hx of depression, depression at time of loved one’s death, poor medical health, younger age of survivor
“Fallacy of Misplaced Empathy”

Inappropriate to dismiss signs of major depression as “normal” in patients despondent because of loss
Normal grief reaction versus Major Depression Suggestive Symptoms

- Guilt about things other actions taken at time of death
- Thoughts of death other survivor feelings
- Morbid preoccupation with worthlessness
- Marked psychomotor retardation
- Hallucinations other than transient voices or images of dead person
- Prolonged & marked functional impairment
Symptom Overlap:

Overview

Depression with dementia ("pseudodementia")
• **Pseudodementia**—“depression with reversible dementia” syndrome: dementia develops during depressive episode but subsides after remission of depression.

• Mild cognitive impairment in depression ranges from 25% to 50%, and cognitive impairment often persists 1 year after depression clears.
Even if depression and cognitive problems clear, they may be prodromal for eventual irreversible dementia (40% on 3-year follow-up).

Hx of depression, especially in later life, even without cognitive impairment, is risk for eventual dementia.
Depression vs Dementia

• Persons with depression:

• Symptoms of shorter onset (weeks or months vs years); progress more rapidly

• Family more aware of disabilities

• Patient is more distressed by disability,

• Says “I don’t know” to questions, and are more irritable and do not want to answer the question

• Often history of depression;

• No problems with agnosia or apraxia.
Depression with dementia ("pseudodementia")

OVERVIEW

Vascular depression

- Depression
- Psychosis
- Movement disorders
- Dementia
Vascular depression (depression due to vascular lesions): more common in late-onset disease.

Increasingly evident that cerebrovascular disease seemingly plays a role in depression beginning in late life.

Cerebrovascular disease may predispose or perpetuate some geriatric depressive syndromes. Such patients seem more resistant to treatment. Supported by comorbidity of depression and vascular risk factors and the association of ischemic lesions to distinctive behavioral symptoms. Vascular lesions include periventricular hyperintensity, deep matter hyperintensity, and subcortical gray matter hyperintensity. Disruption of prefrontal systems may be responsible.
Symptoms include greater levels of apathy, psychomotor retardation and disability, and less agitation, psychoses, family history of psychiatric illness, guilt, and insight versus other older depressed persons.
Vascular Depression Hypothesis
(Krishnan & McDonald, 1995; Sneed & Cuslng-Reimlieb, 2011)

Risk Factors
- Age
- Hypertension
- Hyperlipidemia
- Smoking
- Diabetes

Arteriosclerosis

Deep white matter lesions (↑vulnerability to late onset depression)

Negative life events  →  Poor social support

Vascular depression with executive dysfunction
Summary: Late-onset depression—look for this triad:

- Cognitive risk
- Cerebro-vascular lesions & risk factors
- Apathy, motor retardation
Consequences of Depression with Vascular Lesions

• Refractoriness to medication
• Longer time to recovery (months not weeks)
• Propensity for cognitive decline and vascular dementia
• Propensity for stroke
Depression with dementia (“pseudodementia”)

Vascular depression

MCI with depression
Three older ladies were discussing the travails of getting older.

One said, "Sometimes I catch myself with a jar of mayonnaise in my hand, in front of the refrigerator, and I can't remember whether I was taking it out or putting it away."

The second lady said, "Yes, sometimes I find myself on the landing of the stairs, and I can't remember whether I was on my up, or on my way down."

The third lady chimed in, "Well, I'm glad I don't have those problems. Knock on wood." With that, she rapped her knuckles on the table, then said,

"That must be the door. I'll get it."
“MA6” Mnemonic for Dementia

Memory impairment; and one of the following four items:

Apraxia
Aphasia
Agnosia
Abstraction and other executive functioning

plus

Absence of clouding of consciousness
Ability to function is impaired
<table>
<thead>
<tr>
<th></th>
<th>Clinical Criteria for Amnestic Mild Cognitive Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Memory complaint, preferably corroborated by an informant</td>
</tr>
<tr>
<td>2.</td>
<td>Essentially normal general cognition</td>
</tr>
<tr>
<td>3.</td>
<td>Largely normal activities of daily living</td>
</tr>
<tr>
<td>4.</td>
<td>Objective memory impairment for age</td>
</tr>
<tr>
<td>5.</td>
<td>Not demented</td>
</tr>
</tbody>
</table>
Most common outcome

**FIGURE 1-4** Clinical heterogeneity of mild cognitive impairment.
**Diagnostic Criteria of Mild Cognitive Impairment vs Alzheimer’s Disease**

<table>
<thead>
<tr>
<th>Mild Cognitive Impairment</th>
<th>Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory impairment</td>
<td>Memory impairment</td>
</tr>
<tr>
<td>(subjective, objective</td>
<td></td>
</tr>
<tr>
<td>[1.5 × standard deviation,</td>
<td></td>
</tr>
<tr>
<td>corroborated)</td>
<td></td>
</tr>
<tr>
<td>General cognitive function</td>
<td>Aphasia, agnosia, apraxia,</td>
</tr>
<tr>
<td>intact</td>
<td>and/or impaired executive</td>
</tr>
<tr>
<td></td>
<td>function present</td>
</tr>
<tr>
<td>Activities of daily life</td>
<td>Activities of daily life</td>
</tr>
<tr>
<td>intact</td>
<td>impaired</td>
</tr>
<tr>
<td></td>
<td>Insidious onset, gradual</td>
</tr>
<tr>
<td></td>
<td>progression</td>
</tr>
<tr>
<td></td>
<td>Other potential causes</td>
</tr>
<tr>
<td></td>
<td>ruled out</td>
</tr>
</tbody>
</table>

**Prevalence:** about 10% of those in aged 70-79

to nearly 20% aged 80-89
About 5 to 16% conversion per year

**FIGURE 1-7** Survival curve of subjects with mild cognitive impairment after 8 years of follow-up.
Neuropsychiatric Symptoms of MCI
(Lyketsos et al, 2002; Geda et al, 2008)

Depression: 20% to 27% (1/4)
Apathy: 15 to 19% (1/6)
Irritability: 15 to 19% (1/6)
Psychosis: 5% (1/20)

Movement Disorders and MCI
(Aarsland et al, 2009)

20% of PD patients have MCI (1/5)
(twice normal group)
Treatment of MCI

- 3-year study (Petersen et al, 2005, NEJM)
- Conversion to AD was 16%
- Vit E 2000 IU had no benefit
- Donepezil 10mg delayed progression in the 1st year but the donepezil group caught up to the placebo group in the 2nd and 3rd years. It was slightly more effective in APOE e4 allele than non-carriers. Meta-analysis: OR=0.75 of developing dementia
OVERVIEW

Depression with dementia ("pseudodementia")

Vascular depression with mild cognitive impairment

MCI with depression

Dementia with depression

Depression

Psychosis

Dementia

Movement disorders
Depression of Alzheimer’s disease:

In persons who meet criteria for AD and who have at 3 of the following: depressed mood, anhedonia, social isolation, poor appetite, poor sleep, psychomotor changes, irritability, fatigue or anergia, feelings of worthlessness, and suicidal thoughts.

Prevalence: about ¼ of AD patients
Peak Frequency of Behavioral Symptoms as AD Progresses

OVERVIEW

Depression with dementia ("pseudodementia")
Vascular depression with mild cognitive impairment
MCI with depression
Dementia with depression
PD with depression

- depression
- psychosis
- dementia
- movement disorders
Depression and Parkinson’s Disease

- In Parkinson’s disease about 40-50% have depression; about 1/3 have anxiety disorder.
- Depression precedes motor dysfunction in 12 to 37% of PD patients.
Gait vs. Economy Index

As the economy worsens and stocks fall, the amount of pride in an average citizen's walking method is severely impacted.

1992: Proper upright, cocksure posture
1995: Stride noticeably less pompous
1998: Head hung, slouching more pronounced
2001: Step becomes a pitiful shuffle
2004: Failing markets leave Americans nearly horizontal
Depression with dementia ("pseudodementia")

Vascular depression with mild cognitive impairment

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PD with depression

PDD, LBD, PD+ with cognitive deficits

PDD, LBD, AD with movement sx
Causes of Dementia (and most defining features)

Alzheimer’s disease  60-70%  (insidious onset; memory deficits early; consistency in loss of various cognitive functions)

Vascular  10-30%  (sudden onset, stepwise; less consistency (“patchy”) in cognitive deficits)

Mixed (AD + Vascular) 10%

Lewy Body 10-25%  (central feature: dementia & Need 2 of 3 core sx:parkinson sx; fluctuating cognition with variations in attention and alertness; visual hallucinations) also milder cognitive deficits; falls; visuospatial deficits; neuroleptic sensitivity; REM sleep behavior

Depression  5-15%
6. **Frontotemporal** 5-10%: executive or language (semantic/primary progressive aphasia) prominent early; memory less impaired early in disorder.

Three types of cellular inclusions:

- a. Tar-DNA binding protein of 43kDa (TDP-43) --most common
- b. Tau
- c. Fused in sarcoma (FUS) protein

Both Tau and TDP are associated with diverse pathologic subtypes including CBD, Pick’s, PNP ALS, PD types and semantic dementia

7. **Other 10-20%** e.g. Parkinson’s disease (movement disorder early--1-yr before dementia)
Causes of Dementia by Neuropathology

• **Neurodegenerative syndromes**  
  E.g. AD, FTD, LBD, PD

• **Vascular syndromes**  
  E.g. infarcts, vasculitis, Binswanger

• **Nondegenerative, non-vascular**  
  E.g., TBI, infections, substance induced, metabolic syndromes
## Early Symptoms of 3 Dementias

<table>
<thead>
<tr>
<th></th>
<th>Memory Impairment</th>
<th>Psychotic sx</th>
<th>Parkinsonism</th>
<th>Impulsivity</th>
<th>Personality change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AD</strong></td>
<td>+++</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td><strong>LBD</strong></td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td><strong>FTD</strong></td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+++</td>
<td>+++</td>
</tr>
</tbody>
</table>
## Dementia & Parkinsonian Features: Distinguishing Characteristics

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>PDD</th>
<th>LBD</th>
<th>AD with PD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial sx</strong></td>
<td>parkinsonism</td>
<td>parkinsonism, visual hall.,</td>
<td>cognitive deficits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cognitive fluctuations</td>
<td></td>
</tr>
<tr>
<td>Onset of cognitive decline</td>
<td>late</td>
<td>early</td>
<td>initial</td>
</tr>
<tr>
<td>Onset of psychiatric sx</td>
<td>late</td>
<td>early</td>
<td>variable</td>
</tr>
<tr>
<td>Severity of parkinsonism</td>
<td>severe</td>
<td>moderate</td>
<td>mild to moderate</td>
</tr>
<tr>
<td>Resting tremor</td>
<td>very frequent</td>
<td>mod. frequent</td>
<td>rarely</td>
</tr>
<tr>
<td>Rigidity &amp; bradykinesia</td>
<td>always</td>
<td>always</td>
<td>frequent</td>
</tr>
<tr>
<td>Myoclonus</td>
<td>0%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Response to levodopa Rx</td>
<td>100%</td>
<td>70%??</td>
<td>0%</td>
</tr>
<tr>
<td>Response to neuroleptics</td>
<td>Worsening of parkinsonism</td>
<td>Severe worsening</td>
<td>Worsening of parkinsonism</td>
</tr>
</tbody>
</table>
## Relationship Between Clinical Diagnoses and Neuropathology

<table>
<thead>
<tr>
<th>Clinical Diagnosis</th>
<th>Neuropathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-demented</td>
<td>None</td>
</tr>
<tr>
<td>PD</td>
<td>Nigral LB (3/4), AD/Nigral LB(1/4)</td>
</tr>
<tr>
<td>PDD</td>
<td>Nigral LB(1/4), DLB(2/5), AD/Nigral(1/3)</td>
</tr>
<tr>
<td>DLB</td>
<td>DLB/AD (85%), 15% (DLB)</td>
</tr>
<tr>
<td>AD</td>
<td>AD(92%)</td>
</tr>
<tr>
<td>AD/EPS</td>
<td>AD(1/2), AD/Nigral LB(1/2)</td>
</tr>
</tbody>
</table>

Note: DLB pathology: α-synuclein cortical & nigral
Overlap among Various Dementias

Pure AD

AD (often with EPS) (40-65%), PDD (75%), LBD (60-90%)

Pure PD

Parkinson’s Disease

Pure LBD

Diffuse Lewy-Body Disease

Vascular Dementia

• Pure AD and VaD may be rare.
• AD is multifactorial.
• Similar risk factors: cholesterol, APOE4, DM, HTN.
• Vascular pathology may contribute to cholinergic abnormalities in both disorders (cholinesterase inhibitors may help with both).

Cholinergic deficits in cortex
Tauopathies

- Predominant tau pathology
  - Frontotemporal dementias (Pick’s disease, FTDP-17)
  - Progressive supranuclear palsy (PSP)
  - Corticobasal degeneration (CBD)
  - Argyrophilic grain disease

- Tau + amyloid deposition
  - Alzheimer’s disease
  - Down syndrome
  - Dementia pugilistica

Key Elements of the New Diagnostic Criteria and Guidelines for Alzheimer’s Disease

• Expansion of the conceptual framework of Alzheimer’s disease to include a “preclinical” stage characterized by signature biological changes (biomarkers) that occur years before any disruptions in memory, thinking or behavior can be detected. The new guidelines do not yet specify which biomarkers should be considered signatures of preclinical Alzheimer’s.

• Everyone who eventually develops Alzheimer's experiences a stage of minimal but detectable impairment (Mild Cognitive Impairment), although it's not currently diagnosed in most people. However, not everyone with MCI eventually develops Alzheimer’s, because MCI may also occur for other reasons.
Model of the clinical trajectory of Alzheimer’s disease (AD)
Hypothetical model of AD pathophysiological cascade

- Age Genetics
- Cerebrovascular risk factors
- Other age-related brain diseases

- Amyloid-β Accumulation
- Synaptic Dysfunction
  - Glial Activation
  - Tangle Formation
  - Neuronal Death
- Cognitive Decline

- Brain and cognitive reserve
- ? Environmental factors
Hypothetical model of dynamic biomarkers of the AD expanded to explicate the preclinical phase
Postulated temporal lag of approximately a decade between the deposition of Ab (% of individuals with amyloid plaques in a large autopsy series) and the clinical syndrome of AD dementia (estimated prevalence from three epidemiological studies)
Graphic representation of the proposed staging framework for preclinical AD

Stage 1
Asymptomatic amyloidosis
- High PET amyloid tracer retention
- Low CSF Aβ1-42

Stage 2
Amyloidosis + Neurodegeneration
- Neuronal dysfunction on FDG-PET/fMRI
- High CSF tau/p-tau
- Cortical thinning/Hippocampal atrophy on sMRI

Stage 3
Amyloidosis + Neurodegeneration + Subtle Cognitive Decline
- Evidence of subtle change from baseline level of cognition
- Poor performance on more challenging cognitive tests
- Does not yet meet criteria for MCI

MCI → AD dementia
### Staging categories for preclinical AD research

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Ab (PET or CSF)</th>
<th>Markers of neuronal injury (tau, FDG, sMRI)</th>
<th>Evidence of subtle cognitive change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Asymptomatic cerebral amyloidosis</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Asymptomatic amyloidosis + “downstream neurodegeneration”</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Amyloidosis + neuronal injury + subtle cognitive/behavioral decline</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Abbreviations: AD, Alzheimer’s disease; Ab, amyloid beta peptide; PET, positron emission tomography; CSF, cerebrospinal fluid; FDG, fluorodeoxyglucose; sMRI, structural magnetic resonance imaging.
<table>
<thead>
<tr>
<th>Diagnostic category</th>
<th>Biomarker probability of AD etiology</th>
<th>Ab(PET or CSF)</th>
<th>Neuronal injury (tau, FDG, sMRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCI–core clinical criteria</td>
<td>MCI–core clinical criteria Uninformative</td>
<td>Conflicting/indeterminant/untested</td>
<td>Conflicting/indeterminant/untested</td>
</tr>
<tr>
<td>MCI due to AD</td>
<td>Intermediate</td>
<td>Positive Untested</td>
<td>Untested Positive</td>
</tr>
<tr>
<td>MCI due to AD—high likelihood</td>
<td>Highest</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>MCI—unlikely due to AD</td>
<td>Lowest</td>
<td>Negative</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Abbreviations: AD, Alzheimer’s disease; Ab, amyloid beta peptide; PET, positron emission tomography; CSF, cerebrospinal fluid; FDG, fluorodeoxyglucose; sMRI, structural magnetic resonance imaging.
OVERVIEW

- Depression with dementia ("pseudodementia")
- Vascular depression with mild cognitive impairment
- MCI with depression
- Dementia with depression
- PD with depression
- PDD, LBD, PD+ with cognitive deficits
- PDD, LBD, AD with movement sx

depression
psychosis
dementia
movement disorders
Schizophrenia with movement disorders
PDD, LBD, AD with movement sx
Movement Disorders in Schizophrenia


2. Tardive dyskinesia is about 6x higher after 1 year than younger adults (29% vs 5%), and 63% after 3 years with conventional antipsychotic agents. Jeste et al, 1999

3. TD about 5% after one year with atypical agents in elderly
OVERVIEW

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PDD, LBD, AD with movement sx

PDD, LBD, VaD with psychotic sx

PDD, LBD, AD with movement sx

Schizophrenia with movement disorders

PDD, LBD, PD+ with cognitive deficits

PDD, LBD, AD with movement sx

Schizophrenia with movement disorders
Prevalence of Neuropsychiatric Symptoms (i.e., Psychiatric and Behavioral Problems) in AD

Physical Aggression: 42%
Verbal Aggression/threats: 54%
Restlessness: 38%
Wandering: 29%
Sleep disturbances: 38%
Apathy/Withdrawal: 27%
Hallucinations: 24%
Delusions: 50%
Paranoia/suspiciousness: 30%
Emotional lability: 8%
Mood disturbances (depression, tearfulness): 29%

About half

Psychoses: about half

Cause of caregiver distress

About one-quarter
Hallucinations in PD, DLB, PDD

- ¼ Parkinson’s Disease
- ½ Dementia Lewy Body
- ¾ Parkinson’s Disease Dementia

- In PD and PDD medications may contribute to psychotic sx
Medication Principles

• Use drugs only when behavioral approaches fail
• Review current medications for effectiveness, side effects
• Target symptoms
• Select drugs based on target symptoms and side effect profiles
• Monitor for side effects and potential drug interactions
• Start low, go slow, but keep going. Use in conjunction with behavioral approaches
• Give medications for adequate period of time
• Educate patient and family about benefits and side effects
• Periodically reassess medications – consider tapering or discontinuing
NOTE: All atypical antipsychotics now carry warning about increased mortality rate. (Also seems to be true for older antipsychotic agents, e.g., Haldol.) Most deaths were due to cardiovascular and infectious (e.g., pneumonia) causes. Although death rates were 1.6 to 1.7 times greater than placebo, the absolute risk was about 2%--i.e., about 1 in 50 greater likelihood of death: 2.6% vs 4.5%)

<table>
<thead>
<tr>
<th></th>
<th>Clozapine (6.25–200.00 mg)</th>
<th>Risperidone (0.5–4.0 mg)</th>
<th>Olanzapine (5–20 mg)</th>
<th>Quetiapine (25–250 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthostasis</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Sedation</td>
<td>++++</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Prolactin increase</td>
<td>0</td>
<td>+++</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>Weight gain</td>
<td>++++</td>
<td>+</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Extrapyramidal symptoms</td>
<td>0/+</td>
<td>++</td>
<td>+</td>
<td>0/+</td>
</tr>
<tr>
<td>Tardive dyskinesia</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>Anticholinergic effects</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>Seizure risk</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hematological effects</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Note: ++ = minimal; +++ = mild; +++ = moderate; +++ = moderately severe; ++++ = severe; 0 = no effect; ? = not certain. Ziprasidone dosage and side effects in the elderly have not yet been determined.

Source: Data from Casey 1997 and Pickar 1995.

In this 42-site, double-blind, placebo-controlled trial, 421 outpatients with Alzheimer's disease and psychosis, aggression, or agitation were randomly assigned to receive olanzapine (mean dose, 5.5 mg per day), quetiapine (mean dose, 56.5 mg per day), risperidone (mean dose, 1.0 mg per day), or placebo. Doses were adjusted as needed, and patients were followed for up to 36 weeks. The main outcomes were the time from initial treatment to the discontinuation of treatment for any reason and the number of patients with at least minimal improvement on the Clinical Global Impression of Change (CGIC) scale at 12 weeks.

RESULTS: There were no significant differences among treatments with regard to the time to the discontinuation of treatment for any reason: olanzapine (median, 8.1 weeks), quetiapine (median, 5.3 weeks), risperidone (median, 7.4 weeks), and placebo (median, 8.0 weeks) (P=0.52). The median time to the discontinuation of treatment due to a lack of efficacy favored olanzapine (22.1 weeks) and risperidone (26.7 weeks) as compared with quetiapine (9.1 weeks) and placebo (9.0 weeks) (P=0.002). The time to the discontinuation of treatment due to adverse events or intolerability favored placebo. Overall, 24% of patients who received olanzapine, 16% of patients who received quetiapine, 18% of patients who received risperidone, and 5% of patients who received placebo discontinued their assigned treatment owing to intolerability (P=0.009). No significant differences were noted among the groups with regard to improvement on the CGIC scale. Improvement was observed in 32% of patients assigned to olanzapine, 26% of patients assigned to quetiapine, 29% of patients assigned to risperidone, and 21% of patients assigned to placebo (P=0.22).

CONCLUSIONS: Adverse effects offset advantages in the efficacy of atypical antipsychotic drugs for the treatment of psychosis, aggression, or agitation in patients with Alzheimer's disease.
Antidepressants

• Among antidepressants, citalopram, sertraline, venlafaxine, mirtazapine, bupropion, and duloxetine have minimal drug-drug interactions. Paroxetine and fluoxetine have most. Try to avoid the latter two drugs with older persons.

• Venlafaxine, duloxetine, fluoxetine and bupropion are most activating, sertraline is slightly activating, citalopram is neutral, and paroxetine is mildly sedating, and mirtazapine and trazadone are very sedating.

• Paroxetine may cause mild anti-cholinergic effects and mirtazapine causes more pronounced effects.

• Mirtazapine (moderate) and trazadone (high) have higher rates of orthostatic hypotension.
Cognitive Enhancers

- Cholinesterase Inhibitors (donepezil, galantamine, rivastigmine) may also help behavioral problems (mild effect)
- Memantine (NMDA receptor antagonist) may also help behavioral symptoms (mild effect)
Psychosocial Approaches

• Behavioral oriented—e.g., breakdown behaviors into smaller components and addressing specific component
• Emotion oriented—e.g., validation of emotional feelings, reminiscence therapy, supportive psychotherapy
• Cognition oriented—e.g., reality orientation (to time and place), skills training, and other mind-stimulating activities
• Stimulation oriented—activity, recreational, art and socialization groups (e.g., day programs)
• Other non-specific interventions—e.g., reassurance, distraction, touch therapy, bright light therapy, exercise
• Caregiver oriented interventions—e.g., support groups, education, respite care
OVERVIEW

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MCI with depression

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PDD, LBD, AD with movement sx

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PDD, LBD, AD with movement sx

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Schizophrenia with cognitive deficits

PDD, LBD, AD with movement sx
There is heterogeneity in outcome in schizophrenia into later life.

Long-term studies observing the symptoms and functioning in early-onset schizophrenia suggest that the course of schizophrenia may not be as pessimistic as previously thought, and such findings challenge the notion implied in the term *dementia praecox*. 
Based on long-term studies carried out in Europe ranging from 22 to 37 years, Ciompi found:

* 20 to 27% of patients attained complete symptomatic remission,
* 22 to 33% attained mild end states,
* 24% to 29% attained intermediate end-states,
* 14 to 18% attained severe end-states.

Thus, roughly half of persons exhibited recovery or mild end-states, and half showed moderate or severe end states.
<table>
<thead>
<tr>
<th>Outcome Categories</th>
<th>Trend with Age</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive symptoms</td>
<td>Improvement</td>
<td>About half with mild or no symptoms</td>
</tr>
<tr>
<td>Negative symptoms</td>
<td>Possible improvement</td>
<td>About half with mild or no symptoms</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>Same or slightly worse</td>
<td>About 1/3 no depression; 1/3 syndromal depression; 1/3 subsyndromal depression</td>
</tr>
<tr>
<td>Cognitive symptoms</td>
<td>Slight worsening</td>
<td>About half show only minimal or no cognitive impairment on standard tests</td>
</tr>
<tr>
<td>Adaptive Functioning</td>
<td>Improvement</td>
<td>About half with mild or no disability</td>
</tr>
<tr>
<td>Quality of life</td>
<td>Possible improvement</td>
<td>Most in “moderate” range, and much higher than persons with chronic pain.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Slight to considerable</td>
<td>Only one-tenth in full recovery; half in symptomatic remission</td>
</tr>
</tbody>
</table>
Late-onset schizophrenia—onset after age 40 or 45 (about 15-20% of all schizophrenia)—tends to occur disproportionately more in women, to have more persecutory delusions, fewer negative symptoms and formal thought disorders (see chart comparing early and late disorders)
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Early-Onset Schizophrenia</th>
<th>Late-Onset Schizophrenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persecutory delusions</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Visual hallucinations</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Olfactory hallucinations</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Tactile hallucinations</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Thought disorder</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Affective blunting</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Sensory impairment</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Male –female ratio</td>
<td>Male slightly higher</td>
<td>Women much higher</td>
</tr>
<tr>
<td>Medication dosage</td>
<td>high</td>
<td>low</td>
</tr>
</tbody>
</table>

Summary of differences between early and late onset schizophrenia
Comparison of Older Schizophrenic persons, Older Normal Persons, and Younger Schizophrenic Persons on DRS (controlling for education) – 1988 study

Note: OS were significantly lower than ON on all scales and total DRS except attention scale.

OS was significantly lower than YS on construction and memory scales and total DRS.

Cohen et al., 1988
For older schizophrenic persons there appears to be a because cognitive deficits in young adulthood are followed by a “normal” decline due to aging.

Thus, it can be concluded that even good outcome patients have persistent, but probably not progressive, cognitive and functional deficits in later life.
• With respect to cognitive functioning, about \( \frac{3}{4} \) of schizophrenic persons show cognitive dysfunction in the period after the onset of illness.

• Of these, about 80%, have no further dramatic declines but show declines similar to other persons as they grow older. However, in later life this group remains cognitively impaired versus their normal age peers (equivalent to mild dementia).

• The other 20% is more cognitively impaired and seems to show a marked worsening after age 65 (equivalent to severe dementia).
Measurement and Treatment to Improve Cognition in Schizophrenia (MATRICS) study. Treatment Units for Neurocognition and Schizophrenia (TURNS) are now underway to examine various methods for assessing and enhancing cognition in schizophrenia.
<table>
<thead>
<tr>
<th></th>
<th>Psychosis of AD</th>
<th>Schizophrenia</th>
<th>Psychosis of PD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence</strong></td>
<td>35% to 50%</td>
<td>About 40 to 50% in non-acute states; nearly 100% in acute states</td>
<td>20% to 60%</td>
</tr>
<tr>
<td><strong>Basis for psychosis</strong></td>
<td>Non-cognitive manifestation of underlying pathology</td>
<td>Generally considered primary abnormality</td>
<td>Usually antiparkinsonian drugs, but not always especially late stages</td>
</tr>
<tr>
<td><strong>Bizarre or complex delusions</strong></td>
<td>Rare</td>
<td>Frequent</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Misidentification of caregivers</strong></td>
<td>Frequent</td>
<td>Rare</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Common form of hallucinations</strong></td>
<td>Visual</td>
<td>Auditory</td>
<td>Visual</td>
</tr>
<tr>
<td><strong>Schneiderian first rank symptoms</strong></td>
<td>Rare</td>
<td>Frequent</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Active suicidal ideation</strong></td>
<td>Rare</td>
<td>Frequent</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Past history of psychosis</strong></td>
<td>Rare</td>
<td>Very Common (especially early-onset)</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Eventual remission of psychosis</strong></td>
<td>Frequent</td>
<td>About half</td>
<td>Often after adjustment of antiparkinsonian medication</td>
</tr>
<tr>
<td><strong>Need for years of maintenance antipsychotics</strong></td>
<td>Uncommon</td>
<td>Very common</td>
<td>Uncommon</td>
</tr>
<tr>
<td><strong>Usual optimal doses of meds:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risperidone</td>
<td>0.75mg to 1.5mg</td>
<td>1.5mg to 2.5mg</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>2.5mg to 7.5mg</td>
<td>7.5mg to 12.5mg</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>25mg to 200mg</td>
<td>50 mg to 300mg</td>
<td>12.5 mg to 150mg (also Clozapine)</td>
</tr>
<tr>
<td><strong>Adjunctive treatment</strong></td>
<td>Sensory enhancement, structured activities, social contact, behavior therapy</td>
<td>CBT, social skills training</td>
<td>Supportive therapy</td>
</tr>
</tbody>
</table>
## Schizophrenia vs AD Psychoses

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Alzheimer’s disease</th>
<th>Schizophrenia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone stealing</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>Thought control</td>
<td>+/-</td>
<td>++/+++</td>
</tr>
<tr>
<td><strong>Hallucinations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditory</td>
<td>+/-</td>
<td>+++/+++</td>
</tr>
<tr>
<td>Visual</td>
<td>+++/+++</td>
<td>+</td>
</tr>
<tr>
<td><strong>Cognitive impairment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term memory loss</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Word-finding difficulties</td>
<td>++/+++</td>
<td>-/+</td>
</tr>
<tr>
<td>Disorientation</td>
<td>++</td>
<td>-/+</td>
</tr>
<tr>
<td>MMSE</td>
<td>Gradual decline</td>
<td>More or less constant</td>
</tr>
<tr>
<td>Family history</td>
<td>Alzheimer’s disease</td>
<td>Major mental disorder</td>
</tr>
<tr>
<td>Course</td>
<td>Progressive decline</td>
<td>Variable</td>
</tr>
<tr>
<td>Typical social situation</td>
<td>Married, widowed, divorced, not socially isolated</td>
<td>Single, socially isolated</td>
</tr>
<tr>
<td>Treatment (dosage/length)</td>
<td>20% of young/short duration</td>
<td>50% of young/long duration</td>
</tr>
</tbody>
</table>

*Note.* +/- may or may not be present; ++=may be present; +++=often present; ++++=present in most; MMSE=Mini-Mental State Examination.
OVERVIEW

Depression with dementia ("pseudodementia")

Vascular depression with mild cognitive impairment

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PD with depression

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Schizophrenia with depression

Schizophrenia with cognitive deficits

PDD, LBD, AD, VaD with psychotic sx

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Psychosis

Movement disorders

Depression

Dementia
Published studies in older adults

- Prevalence rates of clinical depression in the schizophrenic patients in these studies ranged from 11% to 56%. If mild/medium depression is included rates ranged from 44% to 75%.
- Found to be associated with severe functional impairment, presence of positive symptoms, physical limitations, younger age, lack of social support and lack of income
Percentage of Persons in the Community and Schizophrenia Group Experiencing Various Levels of Depression

<table>
<thead>
<tr>
<th></th>
<th>Syndromal Depression: CES-D ≥16 (%)</th>
<th>Subsyndromal Depression: CES-D = 8-15 (%)</th>
<th>No depression: CES-D &lt; 8 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Comparison Group (n=113)</td>
<td>11</td>
<td>19</td>
<td>71</td>
</tr>
<tr>
<td>Schizophrenia Group (n=198)</td>
<td>32</td>
<td>29</td>
<td>39</td>
</tr>
</tbody>
</table>

Note: χ²=31.36, df=2, p<.001

Note: More than three-fifths of older schizophrenic adults suffer from depression
Depression with dementia ("pseudodementia")

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Psichotic depression

Schizophrenia with depression

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Psychotic depression

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Depression and Psychosis

• Psychotic depression occurs in 20-45% of hospitalized elderly depressed patients and 15% of elderly depressives in the community.
• Delusions are more commonly mood-congruent, including delusions of guilt, delusions of deserved punishment for moral or personal inadequacies, delusions of nihilism, somatic delusions, delusions of poverty.
• Auditory hallucinations are less common and not easily described such as vague derogatory voices.
• Catatonia in severe depressive episodes

• Psychotic depression: ECT often most effective and fastest treatment. Alternative Rx: antipsychotic drug with antidepressant.
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OVERVIEW

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Psychosis

Med conditions & drugs

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Medical Illness

• Medical illnesses can cause psychosis with and without delirium.

• DSM criteria require prominent hallucinations or delusions, with evidence from the history, physical examination, or laboratory findings that the disturbance is physiological consequence of the general medical condition. It should not be better accounted for by another mental disorder and does not occur exclusively during the course of a delirium.

• Elderly persons are more at-risk because of high rates of physical illness, polypharmacy, and susceptibility to disruption of brain function.
### Medical causes of psychosis in older persons (“MINE”)

<table>
<thead>
<tr>
<th>Metabolic</th>
<th>Vitamin $\text{B}_{12}$ or folate deficiency, electrolyte abnormalities</th>
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</thead>
<tbody>
<tr>
<td>Infections</td>
<td>Meningitis, encephalitis (e.g., herpes), syphilis, HIV/AIDS</td>
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<tr>
<td>Neurological</td>
<td>Parkinson’s disease, epilepsy, dural hematoma, stroke, Huntington’s disease (rare), tumor (rare)</td>
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<tr>
<td>Endocrine</td>
<td>Thyroid disease, adrenal disease, hyper- or hypoglycemia</td>
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</tbody>
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Adapted from Desai and Grossberg, 2003
Delirium

- Perceptual disturbances are common; however, hallucinations also are frequent:
  - Hallucinations: 40% to 67%
  - Delusions: 25% to 50%
- Psychotic symptoms are more commonly seen with hyperactive rather than hypoactive delirium
- Visual > auditory > other hallucinations
- Paranoid delusions are the most common delusions
- Clinical evaluation should help identify; dementia and delirium are often related
## Distinguishing Delirium from Dementia

<table>
<thead>
<tr>
<th></th>
<th>Onset/etiology</th>
<th>Duration/course</th>
<th>Attention span; Sensorium; cognition</th>
<th>Psycho-motor activity</th>
<th>Mood</th>
<th>Psychotic features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delirium</strong></td>
<td>Sudden (hrs/days; Usually immediate cause)</td>
<td>Usually short (days/wks); fluctuating</td>
<td>Decreased attention; impaired sensorium; Often several cognitive deficits</td>
<td>Increased (1/3) or decreased (2/3)</td>
<td>Normal to anxious</td>
<td>Visual/tactile; mis-interpretations of visual stimuli</td>
</tr>
<tr>
<td><strong>Dementia</strong></td>
<td>Insidious (mos to yrs); usually no immediate cause</td>
<td>Usually slowly progressive over yrs; steady</td>
<td>Normal attention; sensorium intact early stages; short-term memory early</td>
<td>Usually normal to decreased</td>
<td>Normal but apathy common</td>
<td>Paranoid ideations, sometimes visual hallucinations</td>
</tr>
</tbody>
</table>
Substance Induced Psychosis

• Prevalence of substance use disorders in elderly persons: 2%-3% in women and 10% in men.

• Psychotic symptoms may occur during alcohol (e.g., DTs), sedative, or barbiturate withdrawal, whereas stimulants (amphetamines, cocaine, OTC weight –reducing drugs) can cause symptoms with intoxication.

• Opiates such as narcotic analgesics, heroin, codeine, and methadone may induce delirium, and consequently, psychoses.

• Prescribed medications that are most common causes of psychosis are antiparkinsonian drugs, anticholinergic drugs, antiarrhythmic agents, corticosteroids.

• If tactile hallucinations occur, consider drug withdrawal states, toxic, or metabolic disturbances.
Depression with dementia ("pseudodementia")

Vascular depression with mild cognitive impairment

MCI with depression

Dementia with depression

PD with depression

PDD, LBD, PD+ with cognitive deficits

PDD, LBD, AD with movement sx

OVERVIEW

Psychotic depression

Schizophrenia with depression

Schizophrenia with cognitive deficits

PDD, LBD, AD, VaD with psychotic sx

PDD, LBD, PD+ with cognitive deficits

PDD, LBD, AD with movement sx

Depression

Psychosis

Movement disorders

Dementia

Med conditions & drugs

Schizophrenia with movement disorders

Vascular depression with mild cognitive impairment

MCI with depression
Obtaining a good history is critical

Psychoses
Cognitive Impairment
Depression
Movement Disorder

Recent Onset
Primary Mental Illness:
Depression (mood congruent delusions)
Secondary to physical illness or drugs:
Delirium
Psychoses
Depression

Longer duration
Primary Mental Illness:
Schizophrenia (bizarre delusions, auditory hallucinations more common, psychoses precedes depression & any movement sx);
Delusional disorder (circumscribed delusion; mild hallucinations, depressed mood secondary to delusions)

Psychiatric sx are secondary:
Alzheimer's disease (dementia → depression → psychoses → movement disorders);
Lewy Body Dementia (psychoses and dementia and movement disorder within 1 year)
Parkinson's Disease (movement disorder → psychoses → dementia)
Five “Ds” of Psychiatric Care in Older Adults

Think of these possibilities and consider course:

• Delirium: days to weeks
• Drugs: days to months
• Disease: days to months
• Depression: weeks to months
• Dementia: months to years
Test yourself on Alzheimer’s disease (AD) and dementia—True or False?

1. Memory loss must always be present in dementia — true

2. Depression is found in about ½ of AD patients — false

3. About ½ of caregivers are clinically depressed — true

4. About ¼ of AD patients suffer from comorbid illness that can impact on their cognitive status — true

5. Antipsychotic agents are the initial treatment strategy for dementia — false

6. Antipsychotic agents appear to pose no risk for use in AD patients — false

7. LBD is characterized by visual hallucinations, EPS, and cognitive sx — true
Test yourself on depression and anxiety—true or false?

1. About one-fourth of community elders have depression  
   - false

2. Depressive symptoms are higher in persons aged 75+  
   - true

3. About ¼ of medically ill persons suffer from depression  
   - true

4. Mortality rates are not greater among post MI pts with depression  
   - false

5. Social withdrawal is rare among older depressed pts  
   - false

6. Vascular depression is associated with apathy  
   - true

7. Highest rates of suicide are found among Asians and Latinos  
   - false

8. Anxiety and depression rarely occur together  
   - false
Test yourself on schizophrenia—true or false?

1. About ¾ of schizophrenia begins before age 40  
   true

2. Compared to early onset cases, persons with late-onset schizophrenia are more likely to have visual hallucinations, to be more paranoid, and to be women  
   true

3. Psychotic symptoms generally do not improve over the life course of schizophrenic persons  
   false

Congratulations—you are now an expert in geriatric psychiatry.