

PSYCHOSIS IN THE ELDERLY

AN INTERACTIVE CASE-BASED
TUTORIAL

REFERRAL

You are a clinician working in geriatric psychiatry. A family physician sends you the following referral:

“Please see Ms. Dee, a 65 year old single female who lives alone in an apartment. She has been concerned about the upstairs neighbours, as she believes they are spying on her and stealing from her. There is no past psychiatric history. Your advice re assessment and treatment recommendations is appreciated.”

You arrange to see Ms. Dee and her niece in clinic.

WHAT IS THE DIFFERENTIAL DIAGNOSIS OF PSYCHOSIS IN THE ELDERLY?

- Dementia
- Major depression
- Delirium
- Medical conditions
- Mania
- Substance-induced
(drugs/EtOH/medications)
- Delusional disorder
- Schizophrenia

WHAT IS THE MOST COMMON ETIOLOGY?

- Dementia (40%)
- Major depression (33%)
- Delirium (7%)
- Medical conditions (7%)
- Mania (5%)
- Substance-induced (4%)
- Delusional disorder (2%)
- Schizophrenia (1%)

HISTORY

You see Ms. Dee and obtain the following history. She believes the young couple upstairs might be spying on her. They know when she isn't home, and break in to look for valuables to buy drugs. She has no proof of this and has never "caught" them, but is convinced. She complains to the landlord, who has "done nothing to help". She denies other delusions or hallucinations, and has no symptoms of depression or mania.

WHAT ARE YOUR NEXT STEP(S)?

- Obtain collateral
 - Include premorbid personality
- Review medical history
 - Include medications
- Medical investigations
 - Rule out delirium
- Cognitive testing
 - Rule out cognitive impairment

COLLATERAL

You speak with her niece after getting informed consent from the patient. Over the past year, Ms. Dee has become “obsessed” with the upstairs neighbours. She believes they spy on her and have tried to steal from her, but has never called the police. Her beliefs continue to intensify, and she calls her niece weekly with these concerns. She doesn’t have memory problems and is fully independent for ADLs and IADLs.

COLLATERAL

Ms. Dee was never married, and retired from her secretarial job 10 years ago. She is socially isolated, and prefers the company of her cats. She has always been “odd and eccentric”, mistrustful of others, and has never gotten along with her neighbours. There is no FH of psychiatric illness.

MEDICAL HISTORY

- Bilateral hearing loss
 - Refuses to wear hearing aid
- 40 pack year history of smoking and currently smokes
- No alcohol use
- Occasional tylenol use for headaches
 - No other medications
 - *DO NOT FORGET TO INQUIRE ABOUT HERBAL OR OTHER ALTERNATIVE REMEDIES*

WHAT MEDICAL INVESTIGATIONS WOULD YOU ORDER?

- CBC
- Electrolytes
- BUN/creatinine
- Glucose
- Calcium
- Magnesium
- Albumin
- Lipid profile
- ALT/AST/GGT
- TSH
- B12
- Folate
- Urinalysis
- CT Head (**WHY?**)

TEST RESULTS

- Bloodwork normal
- Urinalysis normal
- CT Head
 - Mild age-related atrophy
 - No vascular changes

WHAT COGNITIVE TESTS WOULD YOU PERFORM?

- MMSE
 - 30/30
- Clock drawing
 - Normal
- Frontal Assessment Battery
 - 16/18

DEMENTIA?

DOES MS. Dee HAVE DEMENTIA?

NO

WHY NOT?

NO COGNITIVE IMPAIRMENT

NO FUNCTIONAL IMPAIRMENT

HER DELUSION IS COMPLEX

DELIRIUM?

COULD THIS BE DELIRIUM?

UNLIKELY

WHY NOT?

- Symptoms are not transient
- No obvious medical cause
- Psychosis in delirium is different
 - Misinterpretations, illusions, visual hallucinations are more common
- Delusions in delirium are different
 - Usually transient, poorly systematized

DEPRESSION?

COULD THIS BE DEPRESSION?

THERE ARE NO DEPRESSIVE SYMPTOMS

HOW COMMON IS PSYCHOSIS IN DEPRESSION
IN THE ELDERLY?

- 36% - 45% have delusions
 - Usually mood congruent
 - Common themes of persecution, guilt, nihilism
- Has poorer prognosis
 - Suicide attempts and relapse more common
- Treat with ECT

DIAGNOSIS?

WHAT IS YOUR DIAGNOSIS?

DELUSIONAL DISORDER

WHY?

- Delusion is non-bizarre
- Duration is greater than 1 month
- Criterion A for schizophrenia not met
- Functioning not markedly impaired

DELUSIONAL DISORDER

WHAT ARE THE DIFFERENT TYPES OF DELUSIONAL DISORDER?

- Erotomantic
- Grandiose
- Jealous
- Persecutory
- Somatic
- Mixed

WHAT TYPE DOES MS. DEE HAVE?

You discuss the diagnosis of psychosis, specifically delusional disorder, with Ms. Dee's niece. She has several questions for you. She would like to know how common psychosis is, and what might cause it.

HOW COMMON IS PSYCHOSIS IN THE ELDERLY?

- Psychosis is more common in the elderly
- 16 - 23% have “organic” psychosis (ECA study)
- 4% of community-dwelling elderly have “paranoia”
- 17% in outpatient clinic have “paranoia”
- 50% of those with dementia have delusions and/or hallucinations

WHAT ARE RISK FACTORS FOR PSYCHOSIS IN THE ELDERLY?

- Female gender
- Cognitive impairment
- Co-morbid medical conditions
- Medications
 - Especially if dopaminergic, anticholinergic
- Substance abuse
- Sensory deficits
- Social isolation
- Pre-morbid personality
 - Especially if paranoid
- Genetic predisposition

WHICH RISK FACTORS DOES MS. LUSIONAL HAVE?

- Female gender
- Cognitive impairment
- Co-morbid medical conditions
- Medications
- Substance abuse
- Sensory deficits
- Social isolation
- Pre-morbid personality
- Genetic predisposition

DELUSIONAL DISORDER

- 0.03% population prevalence
- Age of onset varies with gender
 - Male 40 - 49
 - Female 60 - 69
- Non-bizarre delusion(s)
- Tactile or olfactory hallucinations may be present if related to the delusion
- Associated with pre-morbid personality
 - Schizotypal, paranoid
- Associated with hearing loss, low socio-economic status, and immigration
- Resistant to treatment

WHAT IS THE COLLABORATIVE TREATMENT PLAN?

NON-PHARMACOLOGICAL

- Suggest hearing aid
- Request home visit

PHARMACOLOGICAL

- Antipsychotic medication
- Discontinue unnecessary medications

At the mention of antipsychotic medication, Ms. Dee decides she does not want to see the psychiatrist again. You instruct her niece to contact you if she has any further concerns or questions. You decide to attempt a home visit in 3 months.

RE-REFERRAL

One year later, you are asked to see Ms. Dee again. She has been admitted to an inpatient unit. She now not only believes she is being spied on, but that the neighbours take her to the basement and “perform tests”. She shows you a bruise on her arm as proof. They release gas through a vent in the ceiling to “knock her out”, which she can smell. They have planted “a chip” in her head to monitor her location, and plan to harvest her organs. She can hear them through the walls, saying “let’s kill her”. She is no longer bathing or eating. These symptoms began six months ago.

What do you want to do?

- Routine B/W
- Collateral from niece
 - Any medical/medication changes
- Cognitive Testing

DIAGNOSIS?

WHAT IS YOUR DIAGNOSIS?

(consider that medical tests are still normal)

LATE-ONSET SCHIZOPHRENIA

WHY?

- Bizarre delusions
- Hallucinations
 - Auditory, olfactory
- At least six month duration

SCHIZOPHRENIA IN THE ELDERLY

- Two possible subtypes
 - > 40 “Late Onset Schizophrenia” (LOS)
 - > 60 “Very-Late-Onset Schizophrenia-Like Psychosis” (VLOSP)
- Scarce epidemiological data
 - 10%-23.5% of cases occur after age 40
 - > 65 community prevalence 0.1% - 0.5%
- Cause unknown
 - ?late-life stressors
 - Bereavement, retirement, disability, etc
 - ?neuronal loss secondary to aging
 - *NO EVIDENCE IT IS A DEMENTING PROCESS*

HOW IS LATE-ONSET SCHIZOPHRENIA (LOS) DIFFERENT FROM EARLY-ONSET SCHIZOPHRENIA (EOS)?

- More common in women
- Persecutory and partition delusions more common
- Less thought disorder
- Fewer negative symptoms
- Less family history
- Higher prevalence of sensory deficits
- Visual hallucinations may be more common
- Pre-morbid functioning less impaired

You need to support and educate around the psychiatrist's medication recommendations

WHAT ARE THE MEDICATION OPTIONS?

ANTIPSYCHOTICS

- Conventional
 - High potency - haldol
 - Medium potency - loxapine
 - Low potency - chlorpromazine
- Atypical
 - Clozapine
 - Risperidone
 - Olanzapine
 - Quetiapine

WHAT SIDE EFFECTS WOULD YOU WORRY ABOUT IN THE ELDERLY?

ANTICHOLINERGIC

(be specific)

- Urinary retention
- Dry mouth
- Blurred vision
- Constipation
- Sinus tachycardia
- Confusion
- Seizures
- Sedation
- Weight gain
- Orthostatic hypotension
- EPSE
- Tardive dyskinesia

SIDE EFFECTS - CONVENTIONAL ANTIPSYCHOTICS

LOW POTENCY

(for eg.
Chlorpromazine)

- Sedation
- Orthostatic hypotension
- Anticholinergic
- Decreased seizure threshold

HIGH POTENCY

(for eg. Haldol)

- EPSE
- Tardive dyskinesia

SIDE EFFECTS - ANTIPSYCHOTICS

ATYPICAL

CLOZAPINE

- Anticholinergic
- Weight gain
- Sedation
- Salivation
- Orthostatic hypotension
- Seizure
- AGRANULOCYTOSIS
- MAY HELP TD

RISPERIDONE

- Sedation
- Orthostatic hypotension
(least likely)
- EPSE (usually at higher
doses)

SIDE EFFECTS - ANTIPSYCHOTICS

ATYPICAL

OLANZAPINE

- Anticholinergic
- Dizziness
- Sedation
- Weight gain

QUETIAPINE

- Sedation
- Orthostatic hypotension
- Little to no EPSE/TD

IS DOSING OF ANTIPSYCHOTICS DIFFERENT IN THE
ELDERLY?

YES

REQUIRE LOWER DOSES

(START LOW, GO SLOW, **STAY LOW!**)

TREATMENT RESPONSE

- Limited information on treatment response
 - Open studies of conventional neuroleptics show 48%-61% have full remission
 - Require lower dose than EOS patients
 - Pre-morbid schizoid traits and thought disorder predict poor treatment response

TREATMENT

Risperidone is started, and the dose is gradually titrated to 3 mg daily with good response. After two weeks of treatment at this dose, you notice Ms. Lusional has a resting tremor in her hands, and is walking slowly with decreased arm swing.

WHAT IS HAPPENING?

EPSE

(Extrapyramidal side effects)

EPSE

WHAT ARE EPSE?

- Pseudoparkinsonism

- Resting tremor
- Rigidity
- Bradykinesia
- Gait disorder (**FALLS**)



Elderly female are
at highest risk

- Dyskinesia

- Dystonia

- Akathisia

WHICH OF THE FOLLOWING OPTIONS
WOULD YOU AVOID?

DECREASE DOSE
SWITCH MEDICATIONS

ANTICHOLINERGICS

WHAT WOULD YOU DO NOW?

You decide to decrease the dose of risperidone to 2mg daily. The extrapyramidal side effects improve and Ms. Dee is discharged home with close follow up by the senior's mental health team.

Approximately one year later, Ms. Dee reports “strange mouth movements”. You notice lateral writhing jaw and tongue movements that are continuous.

WHAT IS THE LIKELY DIAGNOSIS?

TARDIVE DYSKINESIA

TARDIVE DYSKINESIA (TD) IN THE ELDERLY

HOW COMMON IS TD IN THE ELDERLY?

- Jeste et al 1999
 - Used conventional antipsychotics
 - TD 5-6x more common in the elderly
 - 29% at 1 year
 - 50% at 2 years
 - 63% at 3 years
- Up to 2.6% incidence of TD at 1 year with risperidone

TD RISK FACTORS

WHAT ARE RISK FACTORS FOR TD?

- Age
- Female
- Cognitive impairment
- Pre-existing movement disorder
- Early EPSE
- Negative symptoms
- Mood disorder
- EtOH dependence
- Brain damage

TD IN THE ELDERLY

HOW MAY TD BE PROBLEMATIC IN THE ELDERLY?

- Orofacial
 - Eating difficulties
 - Swallowing difficulties
 - Choking
- Limbtruncal
 - Gait difficulties
 - Falls
- Embarrassment/stigma
- REMISSION IS LESS LIKELY IN THE ELDERLY

TD IN THE ELDERLY

WHAT ARE YOUR TREATMENT OPTIONS?

- Medication withdrawal
 - May have immediate worsening of TD
 - May have relapse
- Medication increase
 - Might suppress TD
 - EPSE has already occurred at higher doses
- Clozapine
 - Usually improves existing TD
 - Side effects may be intolerable
- Switch to a different atypical

You decide to switch to quetiapine, and gradually titrate the dose to 200 mg hs while decreasing the dose of risperidone. The TD symptoms decrease, and Ms. Lusional's psychotic symptoms remain well controlled.

Three years later, you are asked to see Ms. Dee again. Her niece has called with concerns that her memory is “not quite the same”, and wonders if she has Alzheimer’s Disease. She does not have any obvious psychotic symptoms.

WHAT COGNITIVE DEFICITS WOULD BE EXPECTED IN LOS?

- Similar pattern to those with EOS
 - Executive dysfunction
 - Motor skills
 - Verbal ability
 - Learning
- Memory and learning capacity are **relatively spared** in EOS compared to dementia

HOW WOULD YOU ASSESS FOR DEMENTIA?

- Cognitive assessment
 - Consider neuropsychological testing
- Functional inquiry
 - Assess IADL's/ADL's
 - Consider OT assessment if necessary
- Collateral
- Medical investigations
 - TSH, B12, folate, etc.

After a thorough assessment with functional inquiry and cognitive testing, it appears Ms. Dee has Alzheimer's Disease.

IS LATE-ONSET SCHIZOPHRENIA A RISK FACTOR FOR DEMENTIA?

POSSIBLY

- Brodaty et al 2003
 - 5 year follow up of LOS patients vs. controls
 - 9 LOS patients (compared to 0 control patients) developed dementia

Ms. Dee is treated with a cholinesterase inhibitor, but eventually her memory and functioning worsen. She is no longer able to care for herself, and is admitted to a nursing home. Her symptoms of schizophrenia (complex persecutory delusions) are still effectively treated, but the staff note she becomes **confused and agitated** in late afternoon.

PSYCHOSIS IN DEMENTIA

HOW DOES PSYCHOSIS IN DEMENTIA DIFFER FROM THAT OF LOS?

- Agitation and aggression are more common (behavioural disturbance)
- Paranoid beliefs are often simple, and less complex
- Visual hallucinations are more common
- Delusions must be differentiated from misperceptions due to cognitive impairment or sensory deficits

PSYCHOSIS IN DEMENTIA

HOW COMMON IS PSYCHOSIS IN DEMENTIA?

>50% in Alzheimer's Disease

- 34% delusions
- 28% hallucinations
- 44% agitation
- 24% verbal aggression
- 18% wandering

PSYCHOSIS IN DEMENTIA

- Dementia with Lewy Bodies
 - 90% have visual hallucinations
 - Typically well formed and detailed
- Vascular Dementia
 - Up to 40% have delusions

Over time, the late afternoon confusion and agitation worsens, and Ms. Dee strikes another nursing home resident while waiting for dinner. The nursing staff call and ask for your help.

WHAT ARE YOUR TREATMENT OPTIONS?

NON-PHARMACOLOGICAL

PHARMACOLOGICAL

WHAT ARE SOME NON-PHARMACOLOGICAL INTERVENTIONS?

ROUTINES

- Predictable settings with rituals/repetition

REDIRECTION

- Diffuse restlessness with tasks, exercise, offering of food, music, or old movies

REASSURANCE

- Verbal and non-verbal reassurance of paranoid thoughts

REORGANIZATION

- Simplify environment; concrete tasks with small steps

RETENTION OF SKILLS

- Perform tasks if possible, and thank them

REASSESSMENT

- Explore wishes and fears, confer with family

RESTRUCTURING

- Environmental change to avoid noise, overcrowding, rushing, overstimulation, and ambiguity

REEVALUTION

- Evaluate hearing/visual acuity, correct if necessary

WHAT PHARMACOLOGICAL APPROACHES COULD BE TAKEN?

(keep in mind Ms. Dee already takes quetiapine 200 mg hs)

- Increase quetiapine dose
- Divide quetiapine dose
 - eg 100 mg q1600h and q2000h
 - This would medicate her at time of confusion
- Switch to different atypical
- Trazodone
- Memantine

Trazodone 50 mg q1600h is started. The nursing home also keeps Ms. Dee in her room until supper time to avoid overstimulation. Although still somewhat confused in late afternoon, she is less agitated with no further episodes of aggression.

The nursing home is so happy with your services, they ask you to see another gentlemen. Mr. Tipper is a 79 year old male with Parkinson's Disease. He has been having recurrent visual hallucinations of small rodents running into his room. His medications are levodopa and selegiline. He does not have significant cognitive impairment.

PSYCHOSIS IN PARKINSON'S DISEASE

HOW COMMON IS PSYCHOSIS IN PARKINSON'S DISEASE?

- <10% of untreated PD patients
- 15-40% in those treated with medications
 - Medications are dopaminergic
 - Usually visual hallucinations
 - Typically human or animal figures
 - 5% have delusions plus hallucinations
- Persistent psychotic symptoms are associated with:
 - Greater functional impairment
 - Caregiver burden
 - Earlier nursing home placement

RISK FACTORS FOR PSYCHOSIS IN PD

- Parkinson medications (dopaminergic)
- Older age
- Greater cognitive impairment
- Increasing severity
- Longer duration of disease
- Co-morbid depression
- Visual impairment
- Polypharmacy

TREATMENT

HOW WOULD YOU TREAT THE VISUAL HALLUCINATIONS?

- Lower the dose of medications (or discontinue) if tolerated
- Atypical antipsychotics
 - Quetiapine is first-line therapy
 - Clozapine (in lower doses) for treatment refractory cases
 - Avoid conventional antipsychotics
- Many patients have insight
 - Only treat the psychotic symptoms if necessary

Mr. Tipper's is able to tolerate discontinuation of selegiline. The frequency of the hallucinations decreases and the nursing staff are pleased with the outcome. Congratulations on a job well done!

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