BIPOLAR DISORDER IN THE ELDERLY

AN INTERACTIVE CASE-BASED TUTORIAL

MARK BOSMA, MD, FRCPC
JUNE 2006
You are a clinician working in geriatric psychiatry. You are asked to see Mr. B. Polar. The information you receive is quite limited.

“This is a 76 year old male brought by the police. He was found wandering through his apartment building in a confused and agitated state, looking dirty and disheveled. His apartment was very messy. He appears to be delusional. Please assess and offer recommendations.”
WHAT IS YOUR DIFFERENTIAL DIAGNOSIS?

1. Mania
2. Delirium
3. Dementia
4. Schizophrenia
5. Depression
WHAT STEPS WILL YOU TAKE TO DIFFERENTIATE?

1. Obtain collateral
2. Mental status examination
3. Rule out medical cause
COLLABORATING

You speak with Mr. Polar’s son, who visits him once a week. Mr. Polar was widowed five years ago, and lives alone in a senior’s apartment. About 4 weeks ago Mr. Polar’s behaviour began to change. He appeared very happy with more energy, spoke rapidly, and was difficult to interrupt. He was only sleeping 4-5 hours per night. One week later he bought a very expensive suit to wear for his “new girlfriend down the hall.” Two weeks ago he began hearing “music and laughter” , but became very angry when his son suggested he get help. Since then he has been confused, stopped caring for his personal needs, and refused to see his son.
WHAT ELSE DO YOU WANT TO KNOW?

1. Past psychiatric history
2. Past medical history
3. Medications
4. Family history
5. Personal history
6. Cognition
7. Functioning
Mr. Polar had an episode of depression at age 57. It occurred shortly after he was forced to retire sooner than planned (his company was laying off people). He responded to a dose of amitriptyline 150mg, and stopped taking it after two years of treatment. He has not had any psychiatric problems since that time.
Mr. Polar has a history of hypertension, glaucoma, and was told he has “mild kidney problems.” He quit smoking 20 years ago. He does not drink alcohol.

His medications are:
1. Atenolol 100 mg od
2. ECASA 81 mg od
3. Glaucoma eye drops
Mr. Polar’s father died at age 65 from “heart disease”, and his mother at age 85 from “dementia.” He has three sisters, one of whom suffers from “anxiety and depression.” He has two sons, both of whom are in good mental and physical health.
Mr. Polar was born in Halifax and had an uneventful childhood. He married at age 22, and had two sons. He was a civil servant until forced to retire at age 57. He and his wife had a good marriage and did some traveling after his retirement. She died of breast cancer 5 years ago at age 69. He has lived in a seniors apartment since that time, and enjoys socializing and playing cards with other tenants.
According to Mr. Polar’s son, he does not have any memory problems. He performs all of his IADL’s and ADL’s independently. His son is very surprised by the rapid onset of functional deterioration over the past 4 weeks.
MENTAL STATUS EXAMINATION

The collateral information is confirmed by mental status examination. Mr. Polar is wearing loose, dirty clothing and is malodorous. He is agitated, frequently standing and pacing about the room, and easily distracted. His speech is rapid and loud. He has loosening of associations, and may be attending to auditory hallucinations. His affect is labile, looking angry with frequent bursts of laughter. MMSE is 15/30, with poor orientation, 1/3 recall, poor concentration, and poor pentagons. The clock is very disorganized.
WHAT CONCLUSIONS CAN YOU DRAW FROM THE COGNITIVE TESTING?
WHAT TESTS WOULD YOU LIKE TO ORDER?

1. CBC
2. Electrolytes
3. Ca, Mg
4. BUN/creatinine
5. ALT/AST/GGT/bili
6. Glucose
7. TSH
8. B12/folate
9. Urinalysis
10. EKG
11. CT Brain(Why?)
RESULTS

All results are within normal limits except:

1. Creatinine – 125
2. CT Brain – Periventricular leukoariosis (white matter changes in the brain)
WHAT IS YOUR DIAGNOSIS?

MANIA
(Bipolar I)

WHAT WILL YOU DO NEXT?
Mr. Polar’s son has several questions about Bipolar Disorder. Firstly, he did not think it could occur in the elderly.
HOW COMMON IS BIPOLAR DISORDER IN THE ELDERLY?

• BIPOLAR DISORDER IS LESS PREVALENT IN THE ELDERLY
  – Typical age of onset is midlife (30s)

• ECA 1 year community prevalence
  – 1.4% 18-44
  – 0.4% 45-64
  – 0.1% >65

Depp et al 2004
IN THE ELDERLY, IT IS MORE COMMON IN MEDICAL SETTINGS

- 6.1% of outpatients
- 8-10% of inpatients
- 3-10% of nursing home residents
- 9.7% of institutionalized
- Up to 17% of ER presentations >60 yrs

Depp et al 2004
WHY DOES PREVALENCE DECREASE WITH AGE?

• Spontaneous recovery
• Higher mortality rate
  – Medical co-morbidity
  – Suicide (up to 20%)
• Cohort differences in reporting
Now that he is aware of the prevalence of Bipolar Disorder, Mr. Polar’s son wants to know if it presents differently in the elderly, and what causes it.
• Possibly two peaks of onset
  – ♂ 70-80’s
  – ♀ 50’s (post-menopausal)
• Symptoms may be less intense
• May present with “classic” mania
• Often similar to young adults
  – Approx. ⅔ with psychotic features
  – Likely similar rates of mixed features
  – Can be irritable
HOW COMMON IS COGNITIVE DYSFUNCTION?

• Cognitive dysfunction is more prevalent
  – Memory impairment
  – Confusion
  – Disorientation
  – Easily distracted
  – Incoherence

• Can be mistaken for dementia
  – *Reversible*
WHAT ARE THE CAUSES OF MANIA IN THE ELDERLY?

• “Primary” (idiopathic)
• “Secondary”
  – Associated with medical illness/medications
  – Older at onset (vs. 1º)
  – Neurologic hypothesis
    • CVA’s
    • Associated with right hemispheric lesions
What are the non-pharmacological strategies you could suggest?

- Provide a controlled stimuli environment
  - Calm, low lights, little clutter
  - Short, solitary, non-competitive activities
- Sleep Hygiene measures
- Encourage po food and fluids that can be taken “on the go”
  - High calorie, high vitamin diet and supplements
- Provide a written daily routine and post it where patient can see it
  - Staff then can cue the patient to the routine
What are the non-pharmacological strategies you could suggest?

• Do not agree with the person’s perceptual or delusional abnormalities
  – Gently present orientation information
  – Call them by name
  – Identify place and time
  – Respond to emotions the patient presents

• During moments of insight reassure the patient that they are safe and will be supported to regain control

• Encourage family to set limits
  – Financial/business transactions
WHAT CLASSES OF MEDICATION WOULD YOU EXPECT TO SEE IN THE TREATMENT OF GERIATRIC MANIA?

1. Mood Stabilizers
   1. Lithium
   2. Valproic Acid
   3. Carbamezapine
   4. Lamotrigine

2. Antipsychotics
   1. Typical
   2. Atypical
WHAT FACTORS ABOUT THE ELDERLY AND MEDICATION MUST YOU CONSIDER?

1. Reduced capacity to metabolize
2. More sensitive to side effects
3. Medical co-morbidities
4. Drug-drug interactions
The physician is considering a trial of lithium in Mr. Polar. Prior to giving consent, his son must be aware of the side effect profile.
WHAT ARE LITHIUM SIDE EFFECTS?

• Neurologic
  – Mental slowing
  – Tremor
  – Dysarthria (toxic)
  – Ataxia (toxic)

• Renal
  – Polydipsia/polyuria
  – Renal failure

• Cardiac
  – Benign T-wave changes
  – Sinus node dysfunction
WHAT ARE LITHIUM SIDE EFFECTS?

- Endocrine
  - Hypothyroidism
  - Hyperparathyroidism

- Gastrointestinal
  - Nausea/vomiting
  - Diarrhea

- Dermatologic
  - Acne
  - Psoriasis

- Weight gain

- Peripheral edema
SIDE EFFECTS ARE WORSE IN THE ELDERLY

- Side effects have more serious consequences
  - Nocturia and BPH/Stress Incontinence
  - Cerebellar dysfunction and falls
  - Mental slowing and dementia
  - Weight gain and diabetes
IS TOXICITY MORE LIKELY TO OCCUR?

• Acute toxicity in 11-23% of geriatric patients
  – With medication changes
  – With illness

WHICH MEDICATIONS ARE LIKELY TO INCREASE LITHIUM LEVELS?

• NSAIDS
• ACE inhibitors
• Thiazide diuretics
DOSING OF LITHIUM

HOW WOULD YOU DOSE LITHIUM IN THE ELDERLY?

USE LOWER DOSES!

- ½ life longer
  - 24 hrs in the young
  - 28-36 hours in the elderly
- Clearance decreases
- Volume of distribution changes
- Aim for lower levels
  - 0.4-0.7
- Dose often does not exceed 600 mg
  - Start low
  - Check levels every 7 days
  - Consider slow release form
WHAT TESTS WOULD YOU ORDER PRIOR TO STARTING LITHIUM?

1. BUN/creatinine
2. Electrolytes
3. TSH
4. FBG (Fasting Blood Glucose)
5. EKG
WHAT CONCERN WOULD YOU HAVE ABOUT STARTING LITHIUM IN THIS PATIENT?
RENAL IMPAIRMENT
(CREATININE 125)
HOW WOULD YOU ASSESS RENAL IMPAIRMENT?
CHECK CrCL
24 hour urine collection
Cockcroft-Gault Formula
COCKCROFT-GAULT FORMULA

\[
\text{CrCl} = \frac{(140-\text{age}) \times \text{weight(kg)} \times 1.2}{\text{Serum Creatinine (umol/L)}} \times 0.85(\text{female})
\]

Age 76
Weight 75kg
SCr 125 umol/L

YOU DO THE CALCULATION AND THE CREATININE CLEARANCE IS 46 mL/min.
WHAT DOES THIS MEAN?
MR. POLAR’S CrCl SUGGESTS HE HAS MODERATE RENAL IMPAIRMENT. WHAT OTHER MEDICATION COULD YOU CHOOSE?
WHAT ARE SIDE EFFECTS OF VALPROIC ACID?

• Neurologic
  – Tremor
  – Ataxia/dysarthria

• Gastrointestinal
  – Nausea/vomiting
  – Diarrhea
  – Liver enzyme elevation

• Hematopoietic
  – Reversible thrombocytopenia

• SIADH

• Sedation

• Weight gain

• Hair loss
VALPROIC ACID

IT IS GENERALLY BETTER TOLERATED THAN LITHIUM

• Start at lower doses
  – 125-250 mg per day
  – Titrate until in therapeutic range

• Frequently check CBC and liver enzymes
  – Severe side effects rare
WHICH PATIENT SUBTYPES MAY RESPOND BETTER TO VALPROIC ACID THAN LITHIUM?

- Older age
- Neurologic impairment
- Dysphoric mania
- Lithium-nonresponsive mania
- Rapid cycling
- No familial history of affective illness
CARBAMEZAPINE

LESS WELL TOLERATED THAN VALPROIC ACID

• Side effect profile similar to valproic acid
  – More severe
    • Rashes
    • Blood dyscrasias
  – Anticholinergic
• Starting dose 100-200 mg OD
• Induces it’s own metabolism
  – May need later dose increases
Valproic acid is chosen, but as Mr. Polar has symptoms of psychosis, you question of an antipsychotic is also necessary.

**SHOULD CONVENTIONAL ANTIPSYCHOTICS BE USED?**

**AVOID IF POSSIBLE**
WHAT ARE SIDE EFFECTS OF CONVENTIONAL ANTIPSYCHOTICS?

- High risk of tardive dyskinesia
  - Approximately 30% after 1 year
- Severe EPSE
  - Parkinsonism most common
- Orthostatic hypotension
- Anticholinergic
- **Use judiciously**
  - Brief treatment
  - Low doses
ATYPICAL ANTIPSYCHOTICS ARE WELL TOLERATED WITH FEWER SIDE EFFECTS

- Lack of evidence (few RCT’s in the elderly)
- Lower risk of EPSE
- Clozapine not recommended
  - Agranulocytosis
  - Seizures
  - Sedation
  - Anticholinergic
- Require $\frac{1}{2}$ to $\frac{2}{3}$ the dose of younger patients
  - Individuals with dementia require even less
Risperidone is started (along with valproic acid) with his son’s consent. He responds very well with rapid symptom improvement. His son remembers that Mr. Polar had some changes on his CT brain, and asks you the significance of this. You find out the following.
• **Elderly bipolar patients have increased neurologic co-morbidity**
  - Increase in CVA risk factors
  - Higher rates of neurologic disorders
    - 36% bipolar vs. 8% unipolar
  - Greater CT changes vs. controls
    - Atrophy
    - Leukoariosis
    - Subcortical hyperintensities
• Diabetes more prevalent
• Less substance abuse
  - 29% elderly vs. 61% younger
Before Mr. Polar is released from hospital you attend a family meeting. His son would like to know if others in the family are at risk of having Bipolar Disorder, and what is likely to happen to his father. You tell him the following.
• Other family members may be at higher risk
• Prevalence of family history of affective disorders is inconclusive
  – Some studies report higher rates
  – Some studies report lower rates
• Patients with co-morbid neurological disorders/findings are less likely to have a family history
COURSE

- <5% HAVE ONSET AFTER 60
- Depression may precede mania
  - 10-20 year interval b/w first affective symptoms and mania is common
- Higher frequency of first hospitalization
  - ??Secondary to co-morbidity
- 13% follow chronic course
  - Similar to younger cohort
- Little evidence to suggest episodes are longer or more frequent vs. young onset Bipolar Disorder
- No evidence for progression to dementia
• **BIPOLAR DISORDER IN THE ELDERLY HAS HIGH MORTALITY**
  – 6 year mortality of 50%
  – Compare to 20% in unipolar depression
IN SHORT, BIPOLAR DISORDER IN THE ELDERLY IS A SERIOUS CONDITION. TREATMENT REQUIRES AN APPROACH THAT IS MODIFIED FOR THIS POPULATION.

ANY QUESTIONS?


• Sajatovic, M. “Treatment of Bipolar Disorder in Older Adults”. Int J Geriatric Psychiatry 2002;17:865-873.