

BIPOLAR DISORDER IN THE ELDERLY

AN INTERACTIVE CASE-BASED TUTORIAL

MARK BOSMA, MD, FRCPC

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REFERRAL

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.”

DIFFERENTIAL DIAGNOSIS

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

COLLATERAL

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***

PAST PSYCHIATRIC HISTORY

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.

PAST MEDICAL HISTORY

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

FAMILY HISTORY

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.

PERSONAL HISTORY

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.

COGNITION/FUNCTIONING

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.

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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)**

DIAGNOSIS

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.

PREVALENCE

HOW COMMON IS BIPOLAR DISORDER IN THE ELDERLY?

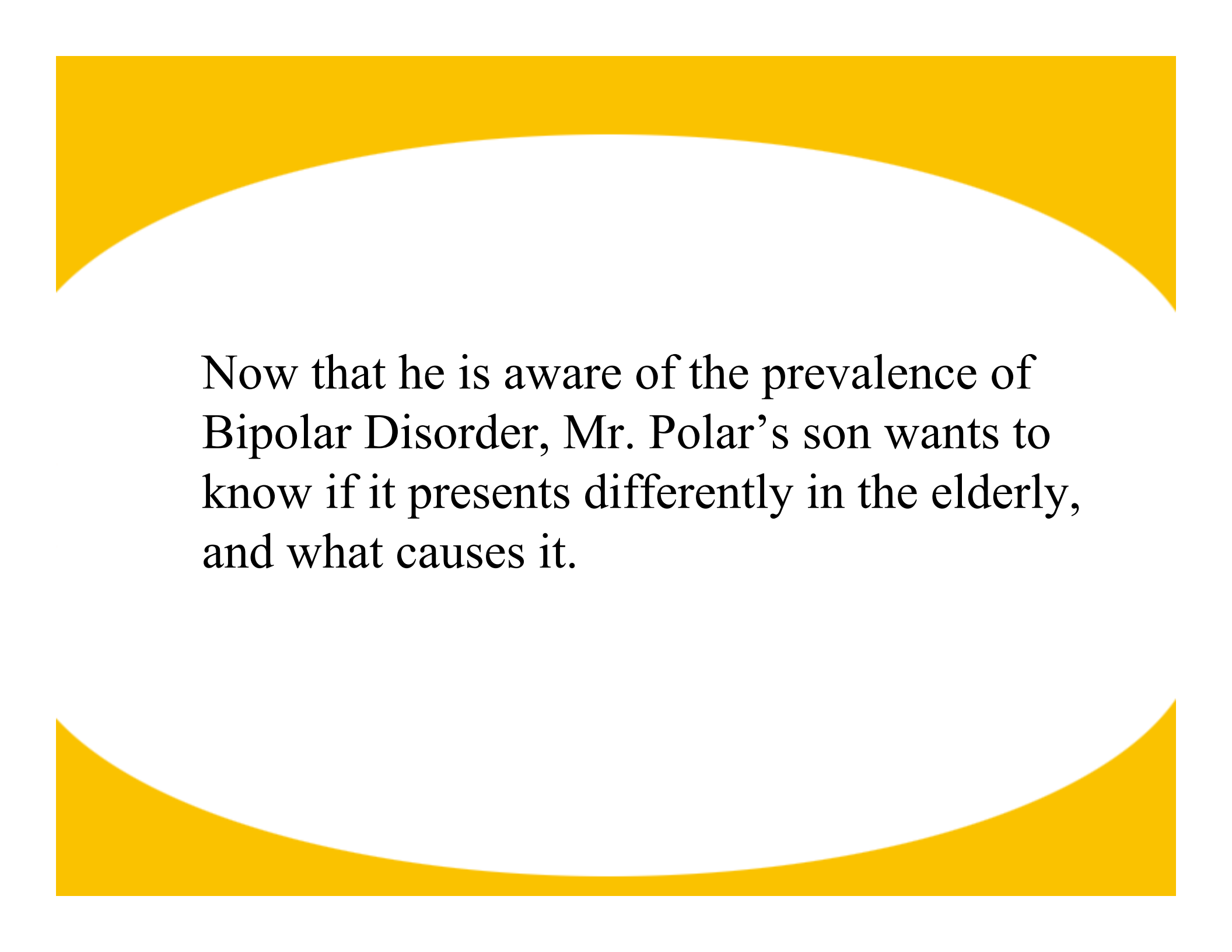
- **BIPOLAR DISORDER IS LESS PREVALENT IN THE ELDERLY**
 - Typical age of onset is midlife (30s)
- ECA 1 year community prevalence
 - 1.4% 18-44
 - 0.4% 45-64
 - **0.1%** >65

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

WHY DOES PREVALENCE DECREASE WITH AGE?

- Spontaneous recovery
- Higher mortality rate
 - Medical co-morbidity
 - Suicide (up to 20%)
- Cohort differences in reporting

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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.

CLINICAL PRESENTATION

- 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. $\frac{2}{3}$ 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. 1°)
 - 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. Carbamazepine
4. Lamotrigene

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

- **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!

- $\frac{1}{2}$ 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

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

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?

VALPROIC ACID

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

VALPROIC ACID

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**

CONVENTIONAL ANTIPSYCHOTICS

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

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.

CO-MORBIDITY

- **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.

FAMILY HISTORY IN LATE-ONSET BIPOLAR DISORDER

- 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

COURSE

- **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?

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