Geriatric bipolar disorder: Epidemiology, clinical features, assessment, and diagnosis

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INTRODUCTION

The clinical features and treatment of older bipolar patients differ from those of younger patients [1]. Up to 25 percent of all bipolar patients are older adults [2,3], and the absolute number of geriatric bipolar patients is expected to increase as the world's population ages over the next several decades [3,4].

This topic reviews the epidemiology, pathogenesis, clinical features, assessment, diagnosis, and differential diagnosis of geriatric bipolar disorder. The treatment and prognosis of geriatric bipolar disorder are discussed separately. (See "Geriatric bipolar disorder: Treatment of mania and major depression" and "Geriatric bipolar disorder: Maintenance treatment".)

DEFINITION

The minimum age used to define geriatric bipolar disorder is generally 60 years [5,6]. However, some authorities use an age cut-off of 50, 55, or 65 years [7]. The International Society for Bipolar Disorders Task Force on Older-Age Bipolar Disorder recommends that older age bipolar disorder include patients ≥50 years [6].

Geriatric bipolar disorder includes both aging patients whose mood disorder presented earlier in life and patients whose mood disorder presents for the first time in later life [1,8]. The

International Society for Bipolar Disorders Task Force uses the term “older age bipolar disorder” instead of “geriatric bipolar disorder” [6].

EPIDEMIOLOGY

The prevalence of geriatric bipolar disorder varies depending upon the setting and study sample.

General population — A survey of a nationally representative sample in the United States found that in the general population aged 65 years and older, the one-year prevalence of bipolar I disorder is approximately 0.4 percent and the lifetime rate is 0.8 percent [9]. These rates were less than rates in younger individuals.

Clinical settings — Compared with the prevalence of geriatric bipolar disorder in the general population, the prevalence appears to be higher in clinical populations and settings:

- Nursing home residents – 3 percent [10]
- Psychiatric outpatients – 6 to 7 percent [7,11]
- Psychiatric inpatients – 7 to 10 percent [7]
- General hospital emergency department – 17 percent [7]
- Bipolar patients – 7 to 25 percent [2,12-14]

In psychiatric outpatients, the estimated prevalence of late-life mania specifically is 0.6 percent [15] and among psychiatric inpatients is 6 percent [16].

Among geriatric bipolar patients treated in clinical settings, approximately 70 to 95 percent represent cases with onset prior to age 50 years that has persisted into later life [13,17].

Sex ratio — Geriatric bipolar patients are predominantly female; a review of 17 studies found that approximately 69 percent of late-life bipolar patients were women [7]. By contrast, a cross-national epidemiologic study of mostly younger bipolar adults found that the ratio of females to males was approximately 1:1 [18].

PATHOGENESIS

It is not known what causes bipolar disorder. Nevertheless, it is thought that the etiology of late-onset geriatric bipolar disorder (age 50 years or older) may possibly differ from earlier-onset bipolar disorder that has persisted into later life [19]. This is suggested by observations that central nervous system pathology occurs in more late-onset geriatric bipolar patients [7].

As an example, one neuroimaging study detected cerebrovascular lesions (with no associated focal neurologic symptoms) in more late-onset geriatric bipolar patients (n = 20) than age-matched, earlier-onset patients (n = 20) (65 versus 25 percent) [20].

Other neuroimaging findings that may perhaps be related to the pathogenesis of geriatric bipolar disorder include reduced volume of gray matter structures (eg, frontal and subcortical structures), white matter hyperintensities, and biochemical changes [6].

Progressive central nervous system deterioration in aging individuals, as evidenced by signs of inflammation, oxidative stress, and mitochondrial dysfunction, may play a role in the pathogenesis of geriatric bipolar disorder [21]. As an example, in a prospective study of individuals from the general population (n >78,000) who were followed for up to 20 years, elevated serum levels of C-reactive protein, a marker of inflammation, were associated with a subsequent diagnosis of late-onset bipolar disorder [22]. However, it is not known whether bipolar disorder is a neurodegenerative condition [6].

Mood episodes that occur in geriatric bipolar patients may possibly be due in part to negative life events such as marital discord, as well as changes in family role, residence, employment, and finances [19,23]. One study found that older bipolar patients had more than twice as many stressful life events, compared with age-matched controls [24].

Additional information about the pathogenesis of bipolar disorder is discussed separately. (See "Bipolar disorder in adults: Epidemiology and pathogenesis", section on 'Pathogenesis'.)

CLINICAL FEATURES

Symptoms — Bipolar disorder is characterized by episodes of [25]:

- Major depression (table 1)
- Mania (table 2)
- Hypomania (table 3)

The severity of mood episode symptoms in geriatric bipolar disorder appears to be typically modest. As an example, a pooled analysis of baseline data from 19 studies included nearly 1400 patients with bipolar disorder (mean age 61 years) from seven countries [3]. Most studies were observational; some studies included only geriatric patients, whereas other studies included mixed ages; and most patients resided in the United States. The average severity of mania symptoms was low, and depressive symptoms were absent or mild in nearly 80 percent. After

controlling for age of onset of bipolar disorder, sex, and education, the analyses found that manic and depressive symptom severity decreased as age increased.

In addition, mood episodes with concurrent symptoms of the opposite polarity (ie, both depressive and manic symptoms at the same time) commonly occur in older patients with bipolar disorder [26]. These episodes with mixed features are associated with worse functioning.

Specific clinical features of geriatric bipolar disorder that differ from those of bipolar disorder in younger (eg, age <50 years) patients include the following [1,27-30]:

- Features more common in geriatric patients:
  - Cognitive impairment (see 'Cognitive impairment' below)
  - Comorbid general medical illnesses (see 'General medical disorders' below)
- Features less common in geriatric patients:
  - Excessive sexual interest and behavior during manic or hypomanic episodes
  - Comorbid anxiety and substance use disorders (see 'Psychiatric disorders' below)

Most studies indicate that there are no substantive differences between the clinical features of late-onset (age ≥50 years) geriatric bipolar disorder and the clinical features of earlier-onset (age <50 years) geriatric bipolar disorder that has persisted into later life [3,6,13,26,31].

Information about the clinical features of bipolar disorder in mixed-age populations is discussed separately. (See "Bipolar disorder in adults: Clinical features".)

Cognitive impairment — Geriatric bipolar disorder is associated with multiple cognitive deficits, which occur in approximately 40 to 50 percent of euthymic, geriatric bipolar patients [32-34]. As an example, a meta-analysis of eight studies assessed cognitive function in euthymic, older adults with bipolar disorder (n = 328) and healthy controls (n = 302) [35]. Those with bipolar disorder manifested clinically moderate to large deficits in:

- Attention
- Verbal learning
- Immediate memory
- Working memory
- Verbal and visual delayed memory
- Processing speed
- Verbal fluency

- Psychomotor function
- Executive functions
- Cognitive flexibility
- Inhibition
- Recognition

These deficits are similar to the types of cognitive deficits that are frequently observed in euthymic, younger adult bipolar patients [36,37]. (See "Bipolar disorder in adults: Clinical features", section on 'Cognition'.)

Geriatric bipolar disorder is also associated with dementia, such that the risk is more than two times greater in patients with bipolar disorder than individuals without bipolar disorder. As an example:

- A meta-analysis of six studies included individuals either with or without a history of bipolar disorder (n >3000 and n >190,000) [38]. The risk of dementia was more than twice as high among individuals with a history of bipolar disorder (odds ratio 2.4, 95% CI 1.4-4.1).

- A subsequent retrospective study of administrative health care data followed more than 3 million veterans without a diagnosis of dementia for up to 10 years; at baseline, the dataset included more than 80,000 veterans with bipolar disorder and more than 80,000 with schizophrenia [39]. After controlling for age, sex, and comorbidities, the analyses found that onset of dementia was more than twice as likely in veterans with bipolar disorder than those without bipolar disorder or schizophrenia (incidence rate ratio 2.26, 95% CI 2.20-2.31).

One review concluded that most of the neuropsychological, neuroimaging, and molecular evidence demonstrates the existence of neuroprogression in bipolar disorder, at least in a subgroup of patients [40]. Thus, neurocognitive functioning may be heterogeneous among patients with geriatric bipolar disorder, such that only a subgroup manifest cognitive impairment and a progressive course of cognitive decline [41]. Evidence of heterogeneity includes a small study of 66 euthymic outpatients with older age bipolar disorder, which found that no clinically significant cognitive deficits occurred in 33 percent, selective deficits in 36 percent, and global deficits in 30 percent [42]. However, it is not clear if the decline in cognitive function is more rapid in those with geriatric bipolar disorder than those without the disorder, due to inconsistent results across studies [43,44].

Comorbidity — Comorbidity is common in late-life bipolar disorder [7,19]. One study of approximately 300 geriatric patients hospitalized for bipolar disorder found that the median

number of comorbid disorders was seven [45]. Much of the comorbidity is accounted for by general medical illnesses.

General medical disorders — General medical conditions are more common in geriatric bipolar patients than younger patients [1,46]. However, the prevalence of general medical disorders in geriatric bipolar patients and in geriatric individuals in the community appears to be comparable [6].

A review found that the average number of comorbid general medical disorders in late-life bipolar patients is three to four [3]. Among geriatric bipolar patients, the prevalence of the most common illnesses is approximately as follows [3,47]:

- Arthritis – 20 percent
- Cardiovascular disease – 10 to 50 percent
- Diabetes mellitus – 20 to 30 percent
- Endocrinopathies (eg, hypothyroidism) – 20 percent
- Hypertension – 45 to 70 percent
- Metabolic syndrome – Up to 50 percent

Compared with the general population, older adults with bipolar disorder may have higher rates of cardiovascular disease and some types of cancer [47,48].

Among older adults with bipolar disorder, females may be more likely than males to manifest respiratory, gastrointestinal, musculoskeletal, and endocrine disorders [48].

Psychiatric disorders — Substance-related and addictive disorders and anxiety disorders are the two most common psychiatric comorbidities in geriatric bipolar disorder [7,11,27] . However, the prevalence of substance use and anxiety disorders is less in geriatric bipolar patients than younger patients [27,49].

Substance use disorders — Substance-related and addictive disorders occur in approximately 10 to 40 percent of geriatric bipolar patients, depending upon the study [11,27,49-51]. By contrast, comorbid substance use disorders occur in approximately 60 percent or more of younger bipolar patients [52]. Substance use disorders are discussed separately. (See "Substance use disorders: Clinical assessment".)

Anxiety disorders — Anxiety disorders occur in approximately 10 percent of patients with geriatric bipolar disorder:

- A study of veterans with late-life bipolar disorder (n >16,000) found that approximately 10 percent had one or more anxiety disorders, including [50]:

- Generalized anxiety disorder
- Panic disorder
- Agoraphobia
- Social anxiety disorder
- Specific phobia
- Unspecified anxiety disorder

- A community survey found that in geriatric bipolar patients (n = 84), panic disorder occurred in 12 percent and generalized anxiety disorder in 10 percent, which was greater than the prevalence in 8121 older adult controls [27].

Psychosocial functioning — Psychosocial functioning is worse in geriatric bipolar patients than age-matched healthy controls in domains such as [53-55]:

- Finances
- Household chores
- Physical activity
- Mobility and transportation
- Communication
- Perceived social support
- Social and recreational activities

Psychosocial functioning also appears to be worse in geriatric bipolar patients than younger patients [11].

Increased severity of manic and depressive symptoms is associated with worse functioning, and activities of daily living in late-life bipolar disorder may be impaired in part because of cognitive deficits [3,56-58]. (See 'Cognitive impairment' above.)

Recurring mood episodes and impaired functioning in geriatric bipolar disorder may create burdens for family caregivers [59]. In addition, older bipolar patients may have a greater risk of developing a neurocognitive disorder (eg, dementia) than older patients with other disorders [60]. As a result, guardianship may be necessary for geriatric bipolar patients who cannot manage their health care, finances, or housing [61]. A study of 266 indigent geriatric bipolar patients found that 9 percent required a guardian [11].

Course of illness — Geriatric bipolar disorder does not resolve or “burn out,” nor does it follow a progressively deteriorating course [7,61]. Rather, patients often suffer repeated mood episodes that generally remit [12,62].

A study of 220 bipolar patients assessed course of illness for approximately 40 years and found that the frequency of recurrent bipolar mood episodes remained constant over the lifespan up to the age of 70 years and more [63]. In addition, geriatric bipolar patients can develop periods of rapid cycling (ie, four or more mood episodes in a 12-month period). Two studies of older adult bipolar patients (n = 475 and n = 246) each found a history of rapid cycling in approximately 20 percent [12,13], comparable to the incidence in mixed-age (18 to 65 years) bipolar patients [64,65]. (See "Rapid cycling bipolar disorder: Epidemiology, pathogenesis, clinical features, and diagnosis".)

Geriatric bipolar patients are frequently ill with recurrent and chronic mood episodes [62]. As an example, a prospective, two-year, open-label treatment study found that 31 late-life bipolar patients were ill 45 percent (mean average) of the time [66].

Recurrence of mood episodes in geriatric bipolar disorder can be precipitated by biologic factors, eg, treatment with steroids for a comorbid general medical disorder, such as arthritis, asthma, or inflammatory bowel disease [67]. In addition, stressful life events (eg, serious illness or changes in family role, residence, employment, or finances) may possibly contribute to recurrences [24].

Mortality — All-cause mortality is elevated in geriatric bipolar disorder:

- A review found that compared with the general population, the lifespan of patients is reduced by an average of 10 years [6].
- Administrative databases were used to study a community-representative sample of men (n >37,000) that included individuals with bipolar disorder (n = 256) [68]. After adjusting for age and substance use disorders, the analyses found that over a period of 13 years, the risk of death was greater among men with bipolar disorder than men without bipolar disorder (hazard ratio 1.3, 95% CI 1.1-1.6). Bipolar disorder was associated with an increased hazard of death by suicide, accidents, pneumonia, and digestive disorders.

Suicide — The high rate of suicide in bipolar disorder persists into late life, such that death by suicide is 12 to 13 times greater among patients than the general population:

- A study of 220 mixed-age adult bipolar patients followed for up to 34 to 38 years found that completed suicide was 12 times higher in patients than in the general population, and this risk remained constant over the lifespan up to the age of 70 years [69].
- Administrative databases were used to study a community-representative sample of men (n >37,000) that included individuals with bipolar disorder (n = 256) [68]. After adjusting for

age, the analyses found that over a period of 13 years, the risk of suicide was greater among men with bipolar disorder than men without bipolar disorder (hazard ratio 13, 95% CI 5-34).

ASSESSMENT

The initial clinical evaluation of older patients with a possible diagnosis of bipolar disorder includes a psychiatric history and mental status examination, with emphasis upon depressive (table 1), manic (table 2), and hypomanic symptoms (table 3), as well as symptoms of substance abuse disorders and anxiety disorders [25,70,71]. Patients presenting with major depression may not recall prior episodes of mania or hypomania, especially if these last occurred several years or decades in the past, were marked by irritability rather than euphoria, or consisted of postpartum mood states. Interviewing family members can help elicit a past history of mania or hypomania.

As part of the psychiatric history, psychosocial functioning is assessed, including autonomy, meaningful activities such as work, and interpersonal relationships [72]. Clinicians who want to conduct an in-depth assessment can use the Functioning Assessment Short Test for Older adults, which is a 24-item, interviewer-administered scale with good to excellent psychometric properties [73].

The mental status examination should address cognition. We often include the Mini-Mental State Examination, which is a brief test administered by the clinician that evaluates orientation, recall, attention, calculation, language manipulation, and constructional praxis [74]. However, the Mini-Mental State Examination is not in the public domain; a reasonable alternative is the Montreal Cognitive Assessment, which is more sensitive for detecting mild cognitive impairment and assesses a wider range of cognitive domains, compared with the Mini-Mental State Examination. Another alternative is the Clinical Dementia Rating, which assesses six areas of cognitive and functional performance including memory, orientation, judgment and problem solving, community affairs, home and hobbies, and personal care. (See "Evaluation of cognitive impairment and dementia", section on 'Cognitive testing'.)

The clinician should also obtain a general medical history and physical examination, as well as laboratory tests and imaging studies that are guided by the history and examination [6,70,71,75]. The medical work-up should emphasize general medical disorders commonly observed in geriatric bipolar patients, which are discussed separately. (See 'General medical disorders' above.)

Medication history should be evaluated among older patients with new-onset mania or major depression, especially new treatments initiated by other clinicians, such as steroids for arthritis, asthma, or inflammatory bowel disease; dopaminergic drugs for Parkinson disease or restlessness legs syndrome; and complementary and alternative medications initiated by the patient (eg, St. John's wort for depression).

The initial evaluation of older patients with a possible diagnosis of bipolar disorder often occurs in a medical or psychiatric emergency department when the patient presents with reckless behavior, suicidal ideation or behavior, psychosis, functional decline (eg, impaired activities of daily living and social isolation), or exacerbation of a general medical illness.

Information about the general assessment of bipolar disorder is discussed separately. (See "Bipolar disorder in adults: Assessment and diagnosis", section on 'Assessment'.)

Screening — Self-report screening instruments can help make the diagnosis and save interviewer time but are more likely to yield false positives than clinician-administered instruments. No screening instruments have been specifically developed for geriatric bipolar disorder. Although screening for bipolar disorder is often recommended and there are many available instruments, it is not known whether screening improves patient outcomes. Studies in unipolar major depression indicate that screening is beneficial only in settings that can provide follow-up to ensure accurate diagnosis and effective treatment. In addition, it is also not clear that bipolar screening instruments perform well enough to warrant routine use, particularly in psychiatric outpatients. Screening for bipolar disorder in mixed-age populations is discussed separately. (See "Bipolar disorder in adults: Assessment and diagnosis", section on 'Screening instruments'.)

DIAGNOSIS

There are several subtypes of bipolar disorder that can be diagnosed, depending upon the mood symptoms and episodes that have occurred [25]:

- Bipolar I disorder
- Bipolar II disorder
- Cyclothymic disorder
- Substance/medication-induced bipolar and related disorder
- Bipolar and related disorder due to another medical condition
- Other specified bipolar and related disorder
- Unspecified bipolar and related disorder

The diagnostic criteria for each subtype of bipolar disorder are identical for geriatric and younger patients and are discussed separately. (See "Bipolar disorder in adults: Assessment and diagnosis", section on 'Diagnosis'.)

DIFFERENTIAL DIAGNOSIS

New-onset manic symptoms in geriatric patients may be due to a general medical condition rather than bipolar disorder [76,77]. In addition, the differential diagnosis of bipolar disorder includes mental illnesses such as schizophrenia, schizoaffective disorder, unipolar major depression, and substance use disorders, which is discussed separately. (See "Bipolar disorder in adults: Assessment and diagnosis", section on 'Differential diagnosis'.)

General medical conditions — Manic or major depressive episodes that are due to the direct physiologic effects of a general medical condition are distinguished from bipolar disorder and instead classified as a "bipolar and related disorder due to another medical condition" in the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition, Text Revision (DSM-5-TR) [25]. The term "organic bipolar affective disorder" is used in the World Health Organization's International Classification of Diseases-10th Revision (ICD-10) for mood episodes secondary to general medical conditions [78].

The assessment (general medical history, physical examination, laboratory tests, and imaging studies) is critical for determining whether a general medical condition is present and etiologically related to the patient's mood episode. Among the many potential etiologies for geriatric mania secondary to a general medical condition, the most common include [8,67,76,79-83]:

- Multiple sclerosis – Multiple sclerosis is characterized by episodes of central nervous system dysfunction that commonly include sensory symptoms (eg, paresthesias, pain, or optic neuritis) and motor symptoms (eg, paraparesis). The clinical findings are augmented with neuroimaging and laboratory studies to diagnose the disorder. (See "Manifestations of multiple sclerosis in adults".)

- Stroke – Ischemia or hemorrhage results in acute neurologic injury and can cause focal loss of brain function. Strokes in the right orbital frontal lobe, temporal lobe, basal ganglia, or thalamus have been associated with mania. Stroke is diagnosed based upon the results of the history, neurologic exam, and neuroimaging studies. (See "Overview of the evaluation of stroke".)

- Brain tumors – Brain tumors can present with generalized symptoms (eg, headache, seizures, or nausea) or focal neurologic symptoms (eg, weakness or sensory loss). Neuroradiologic imaging is the major diagnostic modality in the evaluation of brain tumors. (See "Overview of the clinical features and diagnosis of brain tumors in adults".)

- Mild traumatic brain injury due to falls – Concussion is characterized by confusion and amnesia, often without preceding loss of consciousness. Assessment focuses upon cognition; neuroimaging is usually normal. (See "Acute mild traumatic brain injury (concussion) in adults".)

- Systemic infection with the human immunodeficiency virus (HIV) – Patients infected with HIV can present with an ill-defined febrile illness or aseptic meningitis in the context of high-risk sexual behavior or injection drug abuse. Rash, mucocutaneous ulcers, and lymphadenopathy may be found on physical examination, and serologic testing is positive for HIV antibodies. (See "Acute and early HIV infection: Treatment".)

- Hyperthyroidism – Hyperthyroidism characteristically includes palpitations, heat intolerance, increased perspiration, dyspnea on exertion, and weight loss despite a normal appetite. Physical examination is notable for tachycardia, lid retraction and lid lag, tremor, and enlarged thyroid. Low serum thyrotropin and high free T4 and T3 concentrations establish the diagnosis. (See "Overview of the clinical manifestations of hyperthyroidism in adults".)

- Late neurosyphilis – Late (tertiary) neurosyphilis can present with mania. Although the neurologic examination may be normal in some patients with late neurosyphilis, common abnormal findings include dysarthria, facial and limb hypotonia, intention tremors of the face, tongue, and hands, and reflex abnormalities. The diagnosis is established through laboratory testing. (See "Neurosyphilis", section on 'General paresis' and "Neurosyphilis", section on 'Diagnosis'.)

- Neurodegenerative disorders – Frontotemporal dementias, Huntington disease, and basal ganglia calcification are commonly associated with episodes of mania:

  - Frontotemporal dementias are a group of clinically and neuropathologically heterogeneous neurodegenerative disorders, characterized by prominent changes in social behavior and personality or aphasia, and accompanied by degeneration of the frontal and/or temporal lobes. (See "Frontotemporal dementia: Clinical features and diagnosis".)

- Huntington disease is an inherited progressive neurodegenerative disorder characterized by choreiform movements, psychiatric problems, and dementia. (See "Huntington disease: Clinical features and diagnosis".)

- Basal ganglia calcification is a rare neurodegenerative condition characterized by the accumulation of calcium deposits in the basal ganglia and other brain regions, most easily visualized on computed tomography scan, and a variable phenotype that can include one or more features of parkinsonism, chorea, dystonia, cognitive impairment, or ataxia. (See "Diagnosis and differential diagnosis of Parkinson disease", section on 'Idiopathic and familial basal ganglia calcification'.)

Episodes of major depression may be secondary to general medical conditions (table 4); this is discussed separately. (See "Unipolar depression in adults: Clinical features", section on 'Other medical illnesses'.)

Management of mood episodes secondary to a general medical condition includes concurrent treatment of the mood symptoms and general medical condition. Acute treatment of geriatric mood episodes is discussed separately. (See "Geriatric bipolar disorder: Treatment of mania and major depression".)

INFORMATION FOR PATIENTS

UpToDate offers two types of patient education materials, “The Basics” and “Beyond the Basics.” The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on “patient info” and the keyword(s) of interest.)

- Basics topics (see "Patient education: Bipolar disorder (The Basics)" and "Patient education: Coping with high drug prices (The Basics)")

- Beyond the Basics topics (see "Patient education: Bipolar disorder (Beyond the Basics)" and "Patient education: Coping with high prescription drug prices in the United States (Beyond the Basics)")

These educational materials can be used as part of psychoeducational psychotherapy.

The National Institute of Mental Health also has educational material explaining the symptoms, course of illness, and treatment of bipolar disorder in a booklet entitled "Bipolar Disorder," which is available online at the website or through a toll-free number, 866-615-6464. The web site also provides references, summaries of study results in language intended for the lay public, and information about clinical trials currently recruiting patients.

More comprehensive information is provided in many books written for patients and family members, including The Bipolar Disorder Survival Guide: What You and Your Family Need to Know, written by David J. Miklowitz, PhD (published by The Guilford Press, 2002); An Unquiet Mind: A Memoir of Moods and Madness, written by Kay Jamison, PhD (published by Random House, 1995); and Treatment of Bipolar Illness: A Casebook for Clinicians and Patients, by RM Post, MD, and GS Leverich, LCSW (published by Norton Press, 2008).

The Depression and Bipolar Support Alliance (available at the website or 800-826-3632) is a national organization that educates members about bipolar disorder and how to cope with it. Other functions include increasing public awareness of the illness and advocating for more research and services. The organization is administered and maintained by patients and family members and has local chapters.

The National Alliance on Mental Illness (available at the website or 800-950-6264) is a similarly structured organization devoted to education, support, and advocacy for patients with any mental illness. Bipolar disorder is one of their priorities.

Educational material about bipolar disorder is also available for patients at the International Society for Bipolar Disorders, a global organization that fosters collaboration in education, research and clinical care.

SUMMARY

- **Definition** – The minimum age used to define geriatric bipolar disorder is generally 60 years. However, some authorities suggest a minimum age of 50 years. Older age bipolar disorder includes both aging patients whose mood disorder presented earlier in life and

patients whose mood disorder presents for the first time in later life. (See 'Definition' above.)

- **Epidemiology** – The estimated lifetime prevalence of bipolar I disorder in the United States general population aged 65 years and older is 0.8 percent. Geriatric patients represent between 7 and 25 percent of all bipolar patients. (See 'Epidemiology' above.)

- **Pathogenesis** – The pathogenesis of geriatric bipolar disorder is not known. However, the etiology of late-onset geriatric bipolar disorder (age 50 years or older) may possibly differ from earlier-onset bipolar disorder that has persisted into later life. Progressive central nervous system deterioration in aging individuals may play a role in the pathogenesis of geriatric bipolar disorder. (See 'Pathogenesis' above.)

- **Clinical features** – Bipolar disorder is characterized by episodes of major depression (table 1), mania (table 2), and hypomania (table 3). The clinical features of older and younger bipolar patients differ in that cognitive impairment is more common and severe in geriatric patients. In addition, general medical comorbidity occurs more often in geriatric bipolar patients than younger patients. By contrast, comorbid anxiety and substance use disorders appear to be less common in geriatric patients. Compared with the general population, the lifespan of patients with geriatric bipolar disorder is reduced by an average of 10 years, and the rate of completed suicide is 12 to 13 times greater in patients. (See 'Clinical features' above and "Bipolar disorder in adults: Clinical features".)

- **Assessment** – The assessment for geriatric bipolar disorder includes a psychiatric history and mental status examination, with emphasis upon depressive and manic symptoms. The work-up also includes a general medical history, physical examination, and focused laboratory tests and imaging studies that assess for general medical disorders such as hypertension, hyperlipidemia, diabetes, hypothyroidism, coronary heart disease, and asthma. Medication history should be evaluated among older patients with new-onset mania or major depression, especially new treatments initiated by other clinicians and complementary and alternative medications initiated by the patient. (See 'Assessment' above and 'General medical disorders' above.)

- **Diagnosis** – There are several subtypes of bipolar disorder that can be diagnosed in older patients, including bipolar I disorder and bipolar II disorder. (See 'Diagnosis' above and "Bipolar disorder in adults: Assessment and diagnosis", section on 'Diagnosis'.)

- **Differential diagnosis** – The differential diagnosis of bipolar disorder includes schizophrenia, schizoaffective disorder, delusional disorder, unipolar major depression, and substance use disorders. In addition, mood episodes may be secondary to a general

medical condition (table 4), including multiple sclerosis, stroke, brain tumor, concussion, infection with the human immunodeficiency virus, hyperthyroidism, and neurodegenerative disorders. (See 'Differential diagnosis' above.)

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