Patients with cancer: Clinical features, assessment, and diagnosis of unipolar depressive disorders

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INTRODUCTION

Depressive syndromes such as major depression and minor depression are more common in patients with cancer than the general population [1]. Practice guidelines indicate that treating these depressive disorders, as well as subsyndromal symptoms, can improve well-being and quality of life [2].

Depression is one of the most frequent forms of psychiatric distress in cancer patients. The misconception that all patients with cancer are or should be depressed can trivialize their suffering and disability and lead to the underdiagnosis and undertreatment of depression [3].

This topic reviews the clinical features, assessment, and diagnosis of unipolar depressive disorders in patients with cancer. The clinical features and diagnosis of other psychiatric disorders in cancer patients are discussed separately, as are the clinical features and diagnosis of unipolar depression in palliative care and the management of depressive disorders in cancer patients. (See "Patients with cancer: Overview of the clinical features and diagnosis of psychiatric disorders" and "Assessment and management of depression in palliative care" and "Management of psychiatric disorders in patients with cancer", section on 'Depression'.)

TERMINOLOGY

The term “depression” is potentially confusing because it may refer to a transient mood state, a syndrome, or mental disorder. (See "Unipolar depression in adults: Clinical features", section on 'Definitions of depression'.)

In addition, there is a continuum of pathological depressive conditions, from subsyndromal symptoms to the syndromes of minor depression and major depression. (See "Unipolar depression in adults: Clinical features", section on 'Continuum of severity'.)

A diagnosis of cancer may engender anticipatory grief, which is distinguished from depression. (See "Bereavement and grief in adults: Clinical features", section on 'Anticipatory grief'.)

EPIDEMIOLOGY

Prevalence — The reported prevalence of depression in patients with cancer varies widely, which is likely due to differences in time since diagnosis of cancer, assessment methods, diagnostic criteria, patient populations (eg, sociodemographic factors and stage of cancer), settings (eg, inpatient versus outpatient), and interviewer expertise [4]. As an example, identifying cases of depression with clinical interviews, rather than depression rating scales or screening instruments (which are less valid), may yield fewer cases. In addition, diagnosing depression in the context of cancer can be difficult because somatic symptoms such as anergia and disturbances in appetite and sleep may be due to depression, cancer, and/or oncologic treatment.

The point prevalence of unipolar major depression in patients with active cancer is not clear. Across multiple studies, the point prevalence ranges from approximately 5 to 20 percent [5-9]:

- A meta-analysis of 70 studies included patients with cancer (n >10,000) across 14 countries who underwent psychiatric interviews. The primary findings were as follows [5]:
  - The estimated point prevalence of unipolar major depression was 16 percent; however, heterogeneity across studies was high. In the United States (23 studies), the point prevalence of unipolar major depression in patients with cancer was approximately 22 percent.
  - In the nine high-quality studies, the estimated point prevalence of unipolar major depression was 8 percent.
  - The point prevalence of any type of depressive syndrome (major depression, minor depression, or persistent depressive disorder (ie, dysthymia and chronic unipolar major depression) was approximately 21 percent.

- A 2014 study of over 4000 cancer patients who were interviewed found that the point prevalence of unipolar major depression ranged from 6 to 13 percent (depending upon the type [site] of cancer) [7]. This is consistent with a 2013 review, which focused upon higher-quality studies and found that in six studies of outpatients with cancer (number of patients not reported), major depression was present in 5 to 16 percent [6].

- A meta-analysis of 11 studies that conducted diagnostic interviews for depression in over 1300 patients with cancer estimated that the point prevalence of unipolar major depression was 14 percent; however, heterogeneity across studies was high [8].

Multiple studies indicate that the risk of major depression is two to four times greater in patients with cancer than the general population [10-16]. As an example, a national registry study identified almost 2,000,000 women with no history of cancer or psychiatric disorders and observed that over 13 years of follow-up, nearly 45,000 women developed breast cancer [1]. The incidence of treatment for depression in the first year after diagnosis of cancer was greater in cancer patients than the general population (relative risk 1.7, 95% CI 1.4-2.1). In addition, depression may occur more often in patients with cancer than other nonpsychiatric illnesses, such as diabetes, heart disease, and thyroid disease [15,17].

One registry study suggests that the increased rate of depression in cancer patients is greatest in the first week after the cancer diagnosis and decreases thereafter [18]. Although the increased risk of depression persists for several years, it progressively dissipates, such that the prevalence of depression in patients who become long-term cancer survivors eventually appears to be comparable to that in the general population. (See "Overview of psychosocial issues in the adult cancer survivor", section on 'Depression'.)

The prevalence of depression in palliative care settings (including late stage or far advanced cancer) is discussed separately. (See "Assessment and management of depression in palliative care", section on 'Prevalence of depression in palliative care'.)

Risk factors — Among patients with cancer, the risk of developing unipolar major depression may be increased by the following factors:

- Prior history of major depression [10,19-21]
- Social deprivation, including relatively low income and less education (eg, less than high school) [7,10,22]
- Living alone, unmarried marital status, and/or poor social support [1,10,21-23]
- General medical comorbidity and debility [1,24]
- Frequent, poorly controlled pain [21,23]
- Metastases/advanced cancer [21,23,25]

- Impairment of functioning (eg, unable to perform self-care or work) [10,23,26]

Some of these factors may be involved in the pathogenesis of depressive syndromes in cancer patients. (See 'Pathogenesis' below.)

Other populations at greater risk of developing major depression include patients with far advanced cancers and the terminally ill. (See "Assessment and management of depression in palliative care".)

Although major depression in the general population is more common among females than males by a ratio of 2:1, the prevalence of cancer-related depression in women and men appears to be comparable [5,21,27]. In addition, patient age is not associated with the prevalence of depression in cancer patients [5]. However, the rate of depression appears to be greater for cancers with poor prognosis [18].

PATHOGENESIS

The pathogenesis of depressive syndromes in patients with cancer is not known. Factors that may be involved include:

- Patient factors – Patient factors that may cause depression include psychological stress and the emotional impact of the cancer diagnosis, personal or family history of depression, lack of social support, heightened attachment anxiety (insecurity and fear of abandonment), poor communication with medical clinicians, and maladaptive coping behaviors (eg, substance-induced intoxication or withdrawal) [4,10,28-30]. Other stressors can also contribute to onset of a depressive episode (eg, bereavement, job loss, and interpersonal conflicts).

- Disease factors – Advanced stages of cancer (eg, cerebral metastases), a greater number and severity of physical symptoms (eg, pain syndromes), and functional disability are associated with depression. In addition, cancer may lead to depression by inducing the release of proinflammatory immune cytokines and by disrupting neuroendocrine processes (eg, elevating nocturnal secretion of cortisol) [10,28,29]. As an example, a meta-analysis of 54 studies (n >5000 patients with cancer) found that increased levels of peripheral blood interleukin-6, tumor necrosis factor, and C-reactive protein were associated with depression, and the clinical effect was moderate to strong [31].

- Treatment factors – Depressive syndromes may arise from the neurotoxic effects of drugs that are used to treat cancer, such as androgen deprivation therapy, buparlisib,

glucocorticoids, interferon-alpha, procarbazine, vinblastine, and vincristine [10,28,32-35]. Treatment-induced tissue destruction may also release depressogenic cytokines [4]. In addition, neurosurgery and thyroidectomy may be associated with depression [10], and disfiguring surgery (eg, mastectomy, limb amputation, and radical neck surgery) may contribute to onset of depression [29,33]. Radiation therapy may also be involved in the pathogenesis of depressive syndromes through a variety of mechanisms, depending upon the treatment target [10].

Information about the pathogenesis of depressive syndromes in the general population (including inflammation) is discussed elsewhere. (See "Unipolar depression: Pathogenesis".)

CLINICAL FEATURES

Symptoms — The symptoms of unipolar depressive disorders include [36]:

- Depressed mood (dysphoria)
- Loss of interest or pleasure (anhedonia)
- Appetite decreased or increased
- Sleep decreased or increased
- Loss of energy
- Cognitive dysfunction
- Psychomotor agitation or slowing
- Feelings of worthlessness or excessive guilt
- Suicidal ideation and behavior

Information about each symptom is discussed elsewhere. (See "Unipolar depression in adults: Clinical features", section on 'Symptoms'.)

The symptom of dysphoria (including hopelessness) is common in patients with cancer. Depressed mood can be an appropriate response to a new cancer diagnosis, worsening prognosis, or cancer recurrence. However, dysphoria in the context of other core signs and symptoms of unipolar depression can also indicate onset of a depressive syndrome that requires pharmacotherapy and psychotherapy. (See "Management of psychiatric disorders in patients with cancer", section on 'Depression'.)

Several symptoms of depressive disorders overlap with symptoms of cancer and its treatment, including anergia, anorexia, cognitive impairment, and insomnia [4,37]. The approach toward diagnosing a depressive syndrome in patients with these overlapping symptoms is discussed elsewhere in this topic. (See 'Initial evaluation' below.)

Comorbid psychopathology — Depressive disorders in patients with cancer may be accompanied by comorbid psychopathology, such as anxiety disorders [10,38]. In a study of more than 8000 patients who were currently treated for cancer, self-report surveys suggested that clinically significant symptoms of depression plus anxiety were present in 12 percent [39]. Other potential comorbidities include substance-related and addictive disorders and posttraumatic stress disorder.

Additional information about comorbidity is discussed separately in the context of the general population of patients with depression. (See "Unipolar depression in adults: Clinical features", section on 'Psychiatric'.)

Course of illness — Episodes of depression in patients with cancer often last at least three months. A prospective observational study included women with breast cancer (n = 122) who were enrolled within eight weeks of diagnosis, followed for up to five years, and suffered an episode of syndromal or subsyndromal depressive and/or anxiety disorders [20]. The episodes lasted at least three months in 66 percent of patients. In a three-year prospective study of approximately 4800 cancer patients, clinically significant depressive symptoms persisted throughout follow-up in 3 percent [40].

SCREENING

We suggest that clinicians screen patients with cancer for unipolar depressive disorders. The rationale is that depression is associated with adverse outcomes (eg, increased mortality); is prevalent, underrecognized, and treatable; and that standardized, valid screening tools are available [41,42]. Clinicians may not identify depression because they think they lack the proper training or sufficient time to address emotional distress. In addition, patients may hesitate to discuss their feelings of distress.

To screen patients with cancer for unipolar depressive disorders, we suggest the self-report, two-item Patient Health Questionnaire (PHQ-2) (table 1), which is derived from the nine-item Patient Health Questionnaire (PHQ-9) (table 2). Screening should be implemented with services in place to ensure follow-up for diagnosis and treatment. Evidence supporting the use of the PHQ-2 to screen for depression includes a pooled analysis of five studies (900 patients with cancer), which found that sensitivity was 91 percent, specificity 86 percent, positive predictive value 57 percent, and negative predictive value 98 percent [43]. A subsequent study found that the PHQ-2 functioned as well as the PHQ-9 [44].

However, in multiple reviews that have evaluated self-report depression screening tools, there is no consensus regarding which specific instrument should be adopted [41]. Reasonable alternatives to the PHQ-2 and PHQ-9 include the Beck Depression Inventory (21 items), Center for Epidemiologic Studies Depression Scale (20 items), and Hospital Anxiety and Depression Scale (14 total items, including a 7-item depression subscale). Like the PHQ-2 and PHQ-9, the Center for Epidemiologic Studies Depression Scale is in the public domain and thus available free of charge for unlimited clinical use.

Although several instruments with fewer than five questions (eg, the single-item Distress Thermometer) are available to screen for depression and are appealing because of their brevity, we generally avoid them due to their inadequate psychometric properties [44]. A pooled analysis of seven studies (n >1200 patients with cancer) found that these short instruments performed poorly in detecting possible cases of major depression; the pooled sensitivity was 75 percent and positive predictive value 36 percent [45]. The instruments were better at excluding cases of possible major depression, with a specificity of 81 percent and negative predictive value of 96 percent.

Screening for depression in patients with cancer should occur when the initial diagnosis of cancer is made and periodically thereafter as clinically indicated, especially with changes in the patient's cancer (eg, disease progression) or treatment status (eg, posttreatment or recurrence), and when patients transition to palliative care. Uptake of screening in community oncology practices may be increased by audits, assigning someone to facilitate screening, and adapting the screening process to the specific workflows of the clinic [42].

Patients who screen positive with the PHQ-2 should be interviewed to make the diagnosis of depression, because screening instruments are often insufficient for case finding [41,46,47]. The interview can be facilitated with the PHQ-9 (table 2), which often performs well in cancer patients [48].

Depression screening is consistent with guidelines from the American Society of Clinical Oncology, which are based upon practice guidelines from the Pan-Canadian Guideline on Screening, Assessment and Care of Psychosocial Distress (Depression, Anxiety) in Adults with Cancer [2]. In addition, the US Preventive Services Task Force recommends screening for depression in the general adult population [49].

Although there is no high-quality evidence that screening for depression in cancer patients improves depression outcomes [50], indirect evidence from other populations suggests that screening can be beneficial. (See "Unipolar major depression during pregnancy: Epidemiology,

clinical features, assessment, and diagnosis", section on 'Screening' and "Screening for depression in adults", section on 'Benefits and harms of screening'.)

Information about screening for depression in the general population is discussed separately. (See "Screening for depression in adults".)

ASSESSMENT

When to suspect depression — The presence of major depression in patients with cancer is suggested by the following clues [4,51]:

- Nonadherence with treatment for cancer
- Impairment of social or occupational functioning
- Marked physical or psychological distress along with dysphoria
- Negativity
- Irritability
- Hopelessness
- Helplessness
- Worthlessness or uselessness
- Demoralization (loss of confidence or hope)

In addition, if clinicians find themselves having an emotional response of feeling bored or hopeless while interviewing patients with cancer, this response may suggest the presence of comorbid major depression in the patient. The presence of many somatic symptoms should also prompt clinicians to further investigate for depression [52].

Initial evaluation — The initial clinical evaluation of patients with a possible diagnosis of unipolar major depression includes a psychiatric history, mental status examination, general medical history, physical examination, and a basic set of laboratory tests (eg, complete blood count, serum chemistry panels, thyroid stimulating hormone, urinalysis, and urine toxicology screen for drugs of abuse) [53,54]. Additional information about the initial assessment in the general population is discussed separately. (See "Unipolar depression in adults: Assessment and diagnosis", section on 'Assessment'.)

In particular, the assessment should address current and past suicidal ideation and behavior; identification of current suicidality should prompt a referral to a mental health specialist for further evaluation and management. Patients with severe symptoms, such as suicidal behavior or suicidal ideation with a specific plan and intent, as well as patients who feel they cannot control their behavior, should be immediately and directly referred to an emergency

department for urgent evaluation. (Referral is also warranted for psychotic symptoms and grossly impaired functioning.) Additional information about assessing suicidality is discussed separately. (See "Suicidal ideation and behavior in adults".)

We suggest that the assessment emphasize the five mood and cognitive symptoms of major depression (table 3) [21,36]:

- Dysphoria (depressed, sad, or anxious)
- Anhedonia (loss of interest or pleasure)
- Worthlessness or excessive guilt
- Impaired concentration and decision making
- Suicidal ideation and behavior

The diagnosis of major depression can be made with more confidence if the patient has at least three of the five mood and cognitive symptoms, especially suicidality because it is strongly associated with a diagnosis of depression. Focusing more upon mood and cognitive symptoms is consistent with the approach taken when diagnosing major depression in the context of other general medical disorders. (See "Unipolar depression in adults: Assessment and diagnosis", section on 'Unipolar major depression'.)

In addition, major depression may also be characterized by feelings of hopelessness and helplessness that is disproportionate to the medical reality and prognosis of the patient's cancer.

Patients may state that they are burdening and inconveniencing their families and causing them pain and distress. Such beliefs are less likely to represent a symptom of depression than if patients suffer with guilty recrimination (eg, "God is punishing me"), feel that their lives have never had any worth, or that they are being punished for evil things that they have done.

We also suggest deemphasizing the somatic (neurovegetative) symptoms of depressive disorders, which include anergia, anorexia, and insomnia, and may be due to cancer and its treatment [21]. Cancer commonly causes fatigue, unrelieved pain may cause insomnia and depression, and chemotherapy may lead to loss of appetite and weight. In addition, the somatic symptoms may be attributable to a nonpsychiatric medical cause, such as progression of the cancer (eg, a cerebral metastasis).

Placing less emphasis upon somatic symptoms when diagnosing major depression in patients with cancer is consistent with the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) [36], and the World Health Organization's International Classification of Diseases-11th Revision (ICD-11) [55]. Both

nosologies specify that symptoms that are counted toward a diagnosis of depression should not be attributable to a nonpsychiatric medical condition. However, if the etiology of the somatic symptoms is indeterminate, clinicians may reasonably take a more inclusive approach by counting somatic symptoms toward the diagnosis of major depression, to avoid missing the diagnosis [37].

Furthermore, deemphasizing the somatic/physical symptoms of depression does not mean that they should be ignored; multiple studies suggest that assessing somatic symptoms have some utility when evaluating cancer patients for depressive disorders [56]. As an example, a prospective study assessed patients (n = 279) for unipolar major depression or minor depression up to three times within the first nine months of being diagnosed with cancer [57]. All depressive symptoms, including somatic symptoms, were more common in depressed patients than nondepressed patients, and the diagnostic accuracy of somatic symptoms was at least as good as that for mood and cognitive symptoms. In addition, asking about specific somatic symptoms may help begin a dialogue about depression with patients who may otherwise resist discussing emotional issues.

Passive wishes for death to come sooner and thoughts of hastening death are common in cancer patients throughout the disease course. Careful assessment is needed to evaluate whether these thoughts are associated with a suicide plan and/or behavior. Frequently, suicidal thoughts represent a wish to talk about fears of dying or other concerns about the future, and can be remediated by increased clinical attention and support.

The presence of risk factors for depression may also help clinicians rule in a depressive disorder in patients with cancer. (See 'Risk factors' above.)

Assessment of patients for depressive disorders in the context of palliative care is discussed separately. (See "Assessment and management of depression in palliative care", section on 'Assessment and diagnosis'.)

Patients with cancer who are asked about suicidal ideation and behavior may respond with requests for physician-assisted dying. (See "Medical aid in dying: Ethical and legal issues".)

DIAGNOSIS

Criteria — Among patients with cancer, the criteria for diagnosing unipolar depressive disorders, including unipolar major depression (table 3) and unipolar minor depression (table 4), are the same criteria that are used in the general population [36]. (See "Unipolar

depression in adults: Assessment and diagnosis", section on 'Diagnostic criteria and classification'.)

Diagnosis of depression in the context of palliative care is discussed separately. (See "Assessment and management of depression in palliative care", section on 'Assessment and diagnosis'.)

Missing the diagnosis — Major depression in patients with cancer is often not recognized [10]. Clinicians may fail to ask about depression or may minimize patient reported symptoms. In addition, patients may be reluctant to discuss their emotional experiences and depressive symptoms due to stigma. Patients may also incorrectly assume that feeling depressed is expected for anyone with cancer and thus avoid seeking help.

In addition, the somatic symptoms of depression in patients with cancer – changes in appetite, energy, libido, and sleep – may be attributed to cancer-related changes or to cancer treatment side effects. (See 'Initial evaluation' above.)

Missing the diagnosis of unipolar depressive disorders is associated with decreased quality of life and survival [10,22].

Differential diagnosis — The differential diagnosis of unipolar depressive disorders in patients with cancer includes the following:

- **Cancer and its treatment** – Somatic symptoms of unipolar major depression (table 3), including disturbances in sleep, energy, and appetite, may also be observed in patients with cancer who are not depressed, due to cancer-related physiologic and structural changes, including complications such as anemia or thyroid dysfunction. The somatic symptoms may also be caused by cancer treatments. Depression is distinguished from cancer-related changes and treatment by focusing upon the five mood and cognitive symptoms of depression, which include dysphoria, anhedonia, worthlessness or excessive guilt, impaired concentration and decision making, and suicidal ideation and behavior. Major depression may also be characterized by hopelessness and helplessness that is disproportionate to the medical reality and prognosis of the patient's cancer.

- **Sadness** – Depressive disorders should also be distinguished from normal sadness that occurs in patients with cancer. Patients who are not depressed may periodically be sad, but maintain the capacity for experiencing pleasure. They react positively to opportunities to engage in the activities that they enjoy, even though the range of activities available to them may be diminished. The diagnosis of unipolar major depression requires not only that the dysphoria occurs for most of the day for nearly every day for at least two weeks,

but that the dysphoria is accompanied by at least four other depressive symptoms as well as significant distress or psychosocial impairment.

- **Other psychiatric disorders** – In addition, symptoms of unipolar depressive disorders can overlap with symptoms of other psychiatric disorders. (See "Unipolar depression in adults: Assessment and diagnosis", section on 'Differential diagnosis'.)

ADVERSE OUTCOMES

Depressive disorders are associated with several undesirable clinical outcomes, including physical distress, increased nonpsychiatric health care utilization and prolonged medical hospitalization, poor adherence with treatment, diminished quality of life, increased desire to hasten death, increased cancer and all-cause mortality, and completed suicide [4,10,58]. (See "Medical aid in dying: Ethical and legal issues" and "Patients with cancer: Overview of the clinical features and diagnosis of psychiatric disorders", section on 'Suicide'.)

Mortality — Mortality appears to be greater in patients with cancer who are also depressed, compared with cancer patients who are not depressed [59]. One possible explanation is that depression may have adverse pathophysiologic effects (eg, dysregulation of cortisol secretion) [60,61]. In addition, depressed patients may have difficulty navigating health care systems, and may be less inclined to pursue or adhere to definitive cancer treatment [10,60,62-64]. One review estimated that nonadherence with care is three times greater among depressed cancer patients than nondepressed cancer patients [51]. Depression is also associated with an increased risk of suicide [10]. (See "Patients with cancer: Overview of the clinical features and diagnosis of psychiatric disorders", section on 'Suicide'.)

- **Cancer mortality** – Many prospective studies of patients with cancer indicate that comorbid depression is associated with a small increased risk of cancer mortality [61,65]. As an example, a meta-analyses of 76 prospective observational studies (n >175,000 cancer patients) found that depression predicted increased cancer mortality (relative risk 1.2), and the association persisted after controlling for potential confounding factors (eg, age, sex, and site and stage of cancer) [60].

- **All-cause mortality** – Among patients with cancer, depressive symptoms are associated with an increased risk for all-cause mortality [62,64,66-69]. In a registry study that identified patients diagnosed with cancer (n >2700) and controlled for potential confounding factors (eg, age, time since diagnosis, and type of cancer), all-cause mortality

was two times greater in cancer patients with clinically significant levels of depression, compared with nondepressed patients (hazard ratio 2.1, 95% CI 1.6-2.7) [70].

Changes in depressive symptoms may be associated with differences in mortality. A one-year, prospective study of nearly 1800 patients with cancer included approximately 700 patients with depressive symptoms at baseline [59]. Among patients whose depression remitted during follow-up, all-cause mortality was comparable to that of cancer patients without depression. By contrast, depressive symptoms that persisted throughout follow-up were associated with increased mortality.

DEPRESSION IN CAREGIVERS

Spouses, partners, children, parents, and other caregivers of patients with cancer may be at increased risk of depressive disorders. In two national registry studies, with overlapping samples, the risk of depression in spouses and partners of cancer patients was modestly increased by approximately 40 percent:

- One study identified males with no history of hospitalization for unipolar depression or bipolar disorder (n >1,000,000), who were followed for a median of 13 years; the cohort included male partners of females who were diagnosed with breast cancer (n >20,000) during follow-up [71]. After adjusting for potential confounding factors (eg, age, socioeconomic status, and nonpsychiatric medical illnesses), the analyses found that the risk of hospitalization for depression or bipolar disorder was greater in males whose partner was diagnosed with cancer, compared with males whose partner was not diagnosed with cancer (hazard ratio 1.4, 95% CI 1.2-1.6).

- A subsequent study included spouses of patients with cancer (n >500,000) and spouses of individuals without cancer (n >2.7 million), who had no preexisting psychiatric morbidity and were followed for a median of approximately eight years [72]. After controlling for potential confounds (eg, age, sex, and household income), the analyses showed that in the first year after the cancer diagnosis, new onset of depression was greater in spouses of patients with cancer than controls (hazard ratio 1.38, 95% CI 1.30-1.47). During the remainder of follow-up, the elevated risk of depression in spouses of cancer patients diminished but remained greater than the rate in controls (hazard ratio 1.14, 95% CI 1.12-1.16).

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: Depression in adults (The Basics)")
- Beyond the Basics topics (see "Patient education: Depression in adults (Beyond the Basics)")

SUMMARY

- **Prevalence of depression** – Among patients with active cancer who are not in palliative care settings, the point prevalence of unipolar major depression is approximately 5 to 20 percent, and the risk of major depression is two to four times greater in patients with cancer than individuals without cancer. In addition, the increased rate of depression is highest immediately after the diagnosis of cancer and decreases thereafter. Following a diagnosis of cancer, the risk of suffering unipolar major depression is increased in those with a prior history of major depression. (See 'Epidemiology' above.)
- **Clinical features** – The symptom of dysphoria is common in oncology settings. Dysphoria can be an appropriate response to a new cancer diagnosis, worsening prognosis, or cancer recurrence. However, dysphoria in the context of other core signs and symptoms of unipolar depression can also indicate onset of a depressive syndrome necessitating treatment. There is a continuum of pathological depressive conditions, from subsyndromal symptoms to the syndromes of minor depression and major depression. Episodes of depression in patients with cancer often last at least three months. (See 'Clinical features' above.)
- **Screening** – Clinicians are encouraged to screen all patients with cancer for depressive disorders with the self-report, two-item Patient Health Questionnaire (table 1);

screening should be implemented with psychiatric services in place to ensure follow-up for diagnosis and treatment. Patients who screen positive (a single “yes” response) should be interviewed to diagnose depression; the interview can be facilitated with the self-administered, nine-item Patient Health Questionnaire (table 2). (See 'Screening' above.)

- **Initial evaluation**
  - The initial clinical evaluation of cancer patients for unipolar major depression includes a psychiatric history, mental status examination, general medical history, physical examination, and a basic set of laboratory tests.
  - The assessment should emphasize the mood and cognitive symptoms of major depression (table 3), which include dysphoria, anhedonia, worthlessness or excessive guilt, hopelessness, helplessness, impaired concentration and decision making, and suicidal ideation and behavior. Although major depression also includes the somatic (neurovegetative) symptoms of anergia, anorexia, and disturbances in psychomotor activity and sleep, less emphasis is placed upon these symptoms because they may also be caused by cancer and its treatment.
  - Patients with severe symptoms (eg, suicidal ideation with a specific plan and intent or suicidal behavior) should be immediately and directly referred to an emergency department. (See 'Initial evaluation' above.)
- **Diagnosing depressive syndromes** – Among patients with cancer, the criteria for diagnosing unipolar depressive disorders, including unipolar major depression (table 3) and unipolar minor depression (table 4), are the same criteria that are used in the general population. (See 'Criteria' above.)
- **Increased mortality** – Mortality is greater in cancer patients with comorbid depression, compared with cancer patients who are not depressed. (See 'Mortality' above.)

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