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Binge eating disorder in adults: Overview of treatment

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INTRODUCTION

Binge eating disorder is more prevalent than either anorexia nervosa or bulimia nervosa, and is associated with numerous psychiatric and nonpsychiatric disorders [1,2]. In addition, most patients report some degree of impairment in psychosocial functioning (home, work, personal life, or social life), and 19 percent report severe impairment.

The phenomenon of binge eating was first described formally in 1959 in individuals with obesity [3]. However, binge eating disorder was first formulated as a distinct diagnosis in the 1990s [4].

This topic provides an overview of evaluating and treating patients for binge eating disorder. The use of cognitive-behavioral therapy to treat binge eating disorder is discussed separately, as is the diagnosis and treatment of anorexia nervosa, bulimia nervosa, and obesity:

- (See "Binge eating disorder: Cognitive-behavioral therapy (CBT)".)
- (See "Eating disorders: Overview of epidemiology, clinical features, and diagnosis".)
- (See "Eating disorders: Overview of prevention and treatment".)
- (See "Obesity in adults: Overview of management".)

DEFINITION OF BINGE EATING DISORDER

Binge eating disorder is defined as eating an amount of food in a discrete period of time (eg, two hours) that is definitely larger than most people would eat in a similar period of time under

similar circumstances [5]. These episodes occur, on average, at least once a week for three months. Episodes of binge eating are associated with a lack of control and with distress over the eating. Additional information about the diagnosis of binge eating disorder is discussed separately. (See "Eating disorders: Overview of epidemiology, clinical features, and diagnosis", section on 'Diagnosis'.)

EVALUATION

An assessment of the patient with binge eating disorder is necessary in order to plan treatment. The evaluation should include the following:

Psychiatric status — The history and mental status examination include:

- Attitude toward body weight and shape
- Self-esteem
- Comorbid psychiatric disorders (eg, depression and substance use disorder)

Medical status — The history and physical examination should focus upon the following parameters and comorbidities associated with excess weight or obesity in appropriate patients. Further assessment with laboratory testing may be indicated for patients with overweight:

- Body mass index measure height and weight
- Waist circumference
- Hypertension measure blood pressure
- Diabetes mellitus measure fasting blood glucose
- Hyperlipidemia measure total and high-density lipoprotein cholesterol
- Coronary heart disease
- Hepatobiliary disease
- Gastroesophageal reflux disease
- Obstructive sleep apnea
- Urinary incontinence

Evaluation of obesity is discussed elsewhere. (See "Obesity in adults: Prevalence, screening, and evaluation".)

Nutritional status — The history should include:

- Lifetime weight and dieting history
- Current eating pattern, including choice of foods
- Types of overeating (eg, overeating at meals, snacking/grazing, and night eating)

- Frequency and intensity of binge eating episodes
- Physical activity and exercise patterns

Clinicians should also ask about efforts to compensate for overeating through use of laxatives, diuretics, self-induced vomiting, fasting, diet pills, and excessive exercise. In addition, patients with diabetes mellitus may deliberately withhold insulin doses to prevent weight gain, and patients with hypothyroidism may overuse thyroid hormone supplements to promote weight loss. Regular use of compensatory measures in the presence of binge eating suggests a diagnosis of bulimia nervosa rather than binge eating disorder.

TREATMENT PLANNING

After evaluating patients with binge eating disorder, clinicians need to determine the treatment setting, type of treatment that should be used, and who will treat the patient.

Treatment goals determine treatment selection and should be clearly established. Goals for treatment may include reducing the patient's:

- Binge eating episodes
- Excess weight if overweight or obese
- Excessive concerns with body image (ie, enhancing self-acceptance of one's body)
- Psychiatric comorbidity such as anxiety, depression, or substance use disorder

It is useful to distinguish treatment for binge eating disorder per se from treatment of obesity in patients who have both. Patients with binge eating disorder who are overweight or obese have varying goals. (See 'Treating obesity in patients with binge eating disorder' below.)

It is not clear if binge eating causes negative medical consequences in patients with normal weight [6]. However, such patients may wish to undergo treatment, because our clinical experience is such that the disorder may lead to excess weight or obesity over time.

Different types of treatment are available, including:

- Psychotherapy adapted for binge eating disorder
- Self-help treatment
- Pharmacotherapy
- Behavioral weight loss treatment

(See 'Psychotherapy' below and 'Pharmacotherapy' below and 'Behavioral weight loss therapy' below and 'Combining CBT and pharmacotherapy' below.)

Reviews have consistently concluded that psychotherapy alone is more beneficial than pharmacotherapy alone in treating binge eating disorder [7-12]. Thus, standard, first-line treatment consists of psychotherapy, such as cognitive-behavioral therapy or interpersonal therapy. Medication is also efficacious as a second-line treatment. However, head-to-head trials comparing different active treatments are lacking [13]. In addition, it is not known whether there are different subtypes of the disorder that respond preferentially to each treatment option.

Although binge eating disorder tends to follow a long-term remitting and relapsing course, nearly all treatment studies have been short term. Some of these studies have collected follow-up data one to two years after the end of treatment, but there is limited information describing the status of patients more than two years after treatment ended.

Treatment setting — Treatment for binge eating disorder nearly always takes place on an outpatient basis. Inpatient, partial hospital, or long-term residential treatment is considered only if the patient has additional psychopathology or medical morbidity that requires a more intense level of care, (eg, suicidality) [14].

Treatment team — Most patients with binge eating disorder receive individual psychotherapy, although group therapy is also commonly provided. Pharmacotherapy may be provided by a clinician with prescribing privileges. Thus, the treatment team typically consists of a therapist and/or psychiatrist or primary care clinician, particularly if medications are being prescribed. Nutritionists (registered dieticians) may also be involved in providing behavioral weight loss therapy or nutritional counseling. Primary care clinicians who typically do not treat binge eating disorder may refer the patient. (See 'Cognitive-behavioral therapy' below.)

PSYCHOTHERAPY

Psychotherapy (eg, cognitive-behavioral therapy [CBT]) is first-line treatment for binge eating disorder [9,11,13]. A meta-analysis examined six randomized psychotherapy trials (five with CBT, one with dialectical behavior therapy, total of 301 patients) and found a large clinical effect for psychotherapy in reducing binge eating [8]. By contrast, the same study performed a separate meta-analysis of randomized pharmacotherapy trials, and found a medium-sized clinical effect. None of the underlying trials involved a head-to-head comparison of psychotherapy and pharmacotherapy.

Psychotherapies that have demonstrated efficacy for treating binge eating disorder include CBT, interpersonal psychotherapy, and dialectical behavior therapy [11,14]. There are fewer data

supporting the use of psychodynamic psychotherapy, but the consensus of clinical experts is that it may help reduce binge eating in some patients [14].

The psychotherapy of choice for binge eating disorder is either CBT or interpersonal therapy, based upon the results of randomized trials that have evaluated each treatment, either separately or within the same study [8,13,15-21]. We suggest CBT because there is more evidence supporting its use. In addition, CBT has been adapted for use in different formats.

Persistent improvement in binge eating disorder often occurs following treatment with CBT, interpersonal psychotherapy, or behavioral weight loss therapy; however, many patients tend to follow a long term remitting and relapsing course of illness:

- In an observational study of 55 patients initially treated with CBT or interpersonal psychotherapy in a randomized trial, assessments were completed posttreatment, one year after treatment cessation, and four years after treatment [22]. Recovery at the four-year follow-up was observed in 65 percent of patients, whereas persistent recovery across all three assessments occurred in approximately 25 percent.
- An observational study assessed 48 patients approximately six years after they were initially treated with CBT or behavioral weight loss therapy in a randomized trial [23].
 Substantial improvement during treatment was followed by worse outcomes during follow-up; nevertheless, at the six-year follow-up, only 8 percent met diagnostic criteria for binge eating disorder.

A longer duration of psychotherapy leads to better outcomes. In a pooled analysis of 11 randomized trials (1073 patients with binge eating disorder), the probability of remission was greater with longer treatments (odds ratio 2.6) [24].

Cognitive-behavioral therapy — For patients with binge eating disorder, we suggest CBT as first line treatment. CBT has been more widely studied for binge eating disorder than any other treatment, and multiple reviews and treatment guidelines concur that CBT is the primary treatment for binge eating disorder [8,9,11,14]. CBT is suitable for most patients, and there are no specific contraindications.

CBT is usually administered by a clinician (therapist-led) to either an individual patient or a group [15]. Alternatively, patients with binge eating disorder can receive CBT through a self-help program, which requires either limited or no involvement of a clinician (guided or pure self-help). The use and administration of CBT to treat binge eating disorder is discussed separately, including the theoretical foundation of CBT, the format for providing the treatment,

self-help forms of CBT, and the specific interventions that comprise CBT. (See "Binge eating disorder: Cognitive-behavioral therapy (CBT)".)

Randomized trials indicate that CBT can be efficacious for binge eating disorder [8,9,11,14,25]. As an example, a pooled analysis of four randomized trials (n = 295 patients) compared therapist-led CBT with a waiting list control condition (no treatment), and found that abstinence from binge eating episodes occurred in more patients who received CBT than controls (59 versus 11 percent) [13]. In addition, CBT appears to be well tolerated, based upon excellent rates of treatment completion (approximately 80 percent), and remission with CBT is maintained at one- and two-year follow-up [9,26]. However, waiting lists do not control for nonspecific aspects of psychotherapy (eg, attention), and a review found that reduction of comorbid depressive symptoms was comparable for CBT and waitlists [13].

For patients with binge eating disorder who are treated with CBT, a good prognostic sign is a prompt and clinically-meaningful change in symptoms. In a 16-week randomized trial, rapid response was defined as a 65 percent reduction in binge eating by the fourth week of treatment [27]. Among patients who received CBT (n = 54), remission occurred in more patients with a rapid response than patients without a rapid response (73 versus 43 percent).

Among patients with binge eating disorder who are treated with CBT, a history of anorexia nervosa or bulimia nervosa is associated with poorer outcomes. At the end of a 20-week randomized trial that compared three types of group CBT for treatment of binge eating disorder (n = 189), the mean number of binge episodes in the past month was greater in patients with a lifetime history of anorexia nervosa or bulimia nervosa than patients with no such history (seven versus two episodes) [28]. In addition, the difference persisted at the one-year follow-up assessment.

Self-help CBT — Many studies have demonstrated that self-help based upon cognitive-behavioral therapy (CBT) is efficacious for treating binge eating disorder. In addition, self-help may be as effective as specialty treatments such as therapist-led CBT or interpersonal psychotherapy. However, self-help CBT may be less effective when delivered in a primary care setting, rather than a specialty setting such as an eating disorder clinic [29].

Various methods are available for administering self-help CBT to patients with binge eating disorder. (See "Binge eating disorder: Cognitive-behavioral therapy (CBT)", section on 'Self-help forms of CBT'.)

Evidence supporting the use of self-help CBT includes the following [13]:

- A 2008 review included six studies of self-help interventions for patients with binge eating disorder and found that self-help was superior to waiting list control [30]. The review also found that patients may respond better to guided self-help that specifically addresses binge eating disorder, as opposed to nonspecific self-help focusing upon obesity or self-assertion. In addition, symptomatic improvement with self-help was consistently maintained at follow-up 3 to 18 months after treatment was finished.
- A 2010 meta-analysis of four randomized trials (152 patients with binge eating disorder) compared self-help CBT with a waiting list control (no treatment) and found that CBT provided a large clinical benefit in reducing the frequency of binge eating as well as concerns with eating, shape, and weight [8].
- Subsequent randomized trials have also found that self-help CBT is beneficial [31-36], but face-to-face CBT may be superior to the self-help format [37].

CBT compared with other psychosocial interventions — For patients with binge eating disorder, the efficacy of cognitive-behavioral therapy (CBT) and interpersonal psychotherapy are similar, based upon randomized trials [15]:

• In one trial, 205 patients with a high body mass index were assigned to 10 sessions of guided self-help based upon CBT, 19 sessions of individual interpersonal psychotherapy, or 20 sessions of behavioral weight loss therapy [16]. Remission from binge eating at the two-year follow-up was significantly greater for patients who received guided self-help CBT or interpersonal psychotherapy, compared with patients who received behavioral weight loss therapy (62 and 68 versus 44 percent). Attrition was significantly higher for guided self-help CBT or behavioral weight loss therapy compared with interpersonal psychotherapy (30 and 28 versus 7 percent).

A secondary analysis identified four subtypes (latent classes) of patients with binge eating disorder [20]. For patients with high depression scores at baseline, interpersonal psychotherapy was significantly more effective than guided self-help CBT or behavioral weight loss therapy. For patients with greater eating disorder pathology at the start of the study, guided self-help CBT was significantly more effective than the alternative treatments.

• In the second trial, 162 patients with overweight were assigned to 20 weekly sessions of either group CBT or group interpersonal psychotherapy [17]. Recovery from binge eating was similar at posttreatment for CBT and interpersonal psychotherapy (79 versus 73 percent of patients) and at one-year follow-up (59 versus 62 percent). In addition, there

were no significant differences for other outcomes, including weight loss (slight in both groups) and psychiatric symptoms associated with other disorders.

In addition, CBT is comparable or superior to behavioral weight loss therapy for treating binge eating disorder [20,26,38]:

- One randomized trial compared CBT with behavioral weight loss therapy in 80 patients with binge eating disorder and obesity; at one-year follow-up, recovery from binge eating disorder, number of binge days, and abstinence from binge eating were comparable for the two groups [39].
- A second randomized trial compared CBT with behavioral weight loss therapy in 105 patients with binge eating disorder who were overweight or obese; at the two-year follow-up, recovery from binge eating disorder had occurred in more patients who received CBT than behavioral weight loss therapy (62 versus 42 percent) [16].

CBT compared with pharmacotherapy — For patients with binge eating disorder, cognitive-behavioral therapy (CBT) is generally more beneficial than pharmacotherapy:

- A 20-week randomized trial compared add-on treatment with CBT, fluoxetine, or placebo in 116 patients who were overweight or obese; all patients received behavioral weight loss therapy for binge eating disorder [18]. Binge frequency decreased more in patients who received adjunctive CBT than patients who did not.
- A randomized trial compared CBT (16 weekly sessions) plus placebo with fluoxetine (60 mg per day for 16 weeks) in 55 patients with binge eating disorder, and assessed patients 12 months posttreatment [40]. Recovery occurred in more patients treated with CBT than fluoxetine (36 versus 4 percent).

Interpersonal psychotherapy — Interpersonal psychotherapy is a reasonable alternative to CBT as first-line treatment for binge eating disorder [15-17].

Interpersonal psychotherapy was originally developed as a treatment for depression and has been adapted for other psychiatric disorders [41,42]. According to the theoretical foundation of interpersonal psychotherapy, binge eating is caused by an unresolved interpersonal problem in at least one of four possible areas:

• Grief, ie, the death or disappearance of an important person, recently or in the past, which was not adequately resolved

- Interpersonal role dispute, ie, conflicts with a significant other (spouse, partner, family member, close friend, or coworker) over different expectations about the relationship
- Role transition, ie, difficulty with a major change in the patient's life circumstances, including relationships (marriage or divorce), occupation (eg, graduation, leaving a job, or retirement), living conditions (eg, moving), financial situation (eg, change in socioeconomic status), and physical health
- Interpersonal deficit, ie, pervasive problems starting and maintaining relationships, social isolation, and chronically unfulfilling relationships

The therapeutic strategy in interpersonal psychotherapy is to initially identify the interpersonal problem area or areas that are most closely linked to binge eating and related behaviors. The clinician then focuses upon experimentation and constructive change in the relevant interpersonal problem areas, with little ongoing reference to the binge eating problem per se. Interpersonal psychotherapy does not focus on weight loss and does not produce significant weight loss in most individuals, but it appears that the subsequent weight course in individuals who stop binge eating is more normal compared with the weight course seen in individuals who continue to binge eat.

Interpersonal psychotherapy has primarily been studied in a group format. In two randomized trials, interpersonal psychotherapy led to significant reductions in binge eating and associated psychopathology that was comparable to CBT [15,17]. In the larger study, 162 patients with overweight with binge eating disorder were assigned to 20 weekly sessions of group interpersonal psychotherapy or group CBT [17]. Recovery from binge eating disorder was similar at the end of treatment for interpersonal psychotherapy and CBT (73 versus 79 percent), and at one-year follow-up (62 versus 59 percent).

The individual format of interpersonal psychotherapy is also effective. A controlled trial found that remission from binge eating at the two-year follow-up was significantly higher in patients who received individual interpersonal psychotherapy or a guided self-help form of CBT, compared with patients who received behavioral weight loss therapy (68 and 62 versus 44 percent) [16].

Practice guidelines concur that interpersonal psychotherapy is efficacious for treating binge eating disorder [11,14].

In practice, interpersonal psychotherapy is sometimes combined with CBT, and this may be particularly useful for patients with more complex psychopathology that includes features such as perfectionism, low self-esteem, and interpersonal difficulties [43].

Dialectical behavior therapy — Reviews have concluded that dialectical behavior therapy is efficacious for treating binge eating disorder [11,14,44].

Dialectical behavior therapy was originally developed as a treatment for borderline personality disorder [45,46]. It has been adapted for multiple disorders, including eating disorders such as binge eating disorder [44,47,48]. It may be particularly useful for patients with eating disorders and comorbid borderline personality disorder and substance use disorders. Therapy is typically administered face-to-face, but guided and unguided self-help formats have also been used [49].

Dialectical behavior therapy was derived from CBT [44]. For binge eating disorder, dialectical behavior therapy consists of teaching skills for managing problematic behaviors, such as binge eating, that are associated with emotion dysregulation. Dialectical behavior therapy includes protocols for managing therapy-disrupting behavior and sicker patients with self-injurious and life-threatening behavior.

Dialectical behavior therapy highlights the dichotomous (ie, absolute, all or nothing, or black or white) thinking, behavior, and feelings of patients and helps them find a balance between polarities [44]. The basic dialectic underlying treatment is accepting one's current ineffective behavior as well as the need to change it.

Dialectical behavior therapy promotes skills related to [44,50]:

- Mindful eating:
 - Eating with full awareness and attention
 - Watching the ebb and flow of binge urges associated with particular cues and triggers
- Emotion regulation:
 - Observing and describing emotions
 - Understanding the function of emotions
 - Learning to balance emotion with cognition and self-awareness
 - Decreasing emotional suffering by increasing positive events
 - Acting opposite to the current, painful emotion
- Distress tolerance, ie, learning techniques to manage unpleasant or painful circumstances and feelings associated with binge eating

Relapse prevention

Randomized trials have shown that dialectical behavior therapy is efficacious for treating binge eating disorder, and that treatment gains are usually maintained for at least six months. A 20-week trial assigned 44 women with binge eating disorder to dialectical behavior therapy or wait list control (no treatment) [51]. Among the patients who completed the trial, abstinence from binge eating posttreatment was higher in patients who received dialectical behavior therapy than control patients (89 versus 13 percent). At six-month follow-up, 67 percent of the dialectical behavior therapy patients remained abstinent. A review of other randomized trials also found that the efficacy of dialectical behavior therapy for treating binge eating disorder was superior to that of supportive psychotherapy [44].

The effects of dialectical behavior therapy group therapy for treating binge eating disorder may not be specific to dialectical behavior therapy. A randomized trial assigned 101 patients to group dialectical behavior therapy or an active comparison group therapy that lacked the specific elements of dialectical behavior therapy [52]. Follow-up assessments performed 3, 6, and 12 months after treatment ended found no significant difference between the two treatments with regard to abstinence and reduction in frequency of binge eating.

Family therapy — Limited data are available regarding the utility of involving family members in the treatment of adults with binge eating disorder. One study found no significant difference in outcome between patients who received group CBT with or without a spouse's involvement [53]. Family therapy for treatment of binge eating disorder may be more important for pediatric or adolescent patients than for adults, similar to other eating disorders [54-56].

Other interventions — Preliminary data from randomized trials suggest other psychotherapies may be beneficial for patients with binge eating disorder:

- Integrative cognitive-affective therapy for binge eating disorder, which focuses upon momentary behavioral and emotional antecedents of binge eating [57]
- Emotion-focused therapy, which focuses upon under-regulating or overregulating affect [58]
- Physical exercise plus dietary therapy [59]

BEHAVIORAL WEIGHT LOSS THERAPY

This treatment uses strategies designed to produce weight loss (eg, moderate caloric restriction and increasing physical activity) as a means to reduce binge eating. Although behavioral weight

loss therapy does not specifically target binge eating, it nevertheless is helpful for some patients with binge eating disorder who are also overweight or obese [9,60]. A trial included patients with a body mass index mass between 27 and 45 who met criteria for binge eating disorder and found that at the two-year follow-up behavioral weight loss treatment led to remission in 44 percent [16].

Specific interventions include:

- Moderate caloric restriction (diet programs)
- Exercise
- Improved nutrition (nutritional rehabilitation and counseling)

We suggest that clinicians base their behavioral weight loss treatment of binge eating disorder upon the National Institutes of Diabetes and Digestive and Kidney Disease's Diabetes Prevention Program manual [61].

Clinicians can successfully combine behavioral weight loss therapy with cognitive-behavioral therapy (CBT). In one randomized trial, 116 patients who were overweight or obese were treated for binge eating disorder with behavioral weight loss therapy plus adjunctive CBT, fluoxetine, or placebo [18]. Binge frequency decreased more in patients who received adjunctive CBT.

Information about weight loss (as opposed to binge eating) as the target of treatment for patients with binge eating disorder and obesity is discussed below. (See 'Treating obesity in patients with binge eating disorder' below.)

PHARMACOTHERAPY

General use — Although medication is efficacious for treating binge eating disorder, it is generally regarded as less efficacious than psychotherapy [7,9]. Thus, most patients may prefer psychotherapy (eg, cognitive-behavioral therapy [CBT]). However, pharmacotherapy may require less time or be less expensive. It is therefore reasonable to use pharmacotherapy as first-line treatment for patients who prefer medication and decline psychotherapy, as well as patients who do not have access to psychotherapy. If pharmacotherapy is selected, we suggest selective serotonin reuptake inhibitors. (See 'Specific medications' below.)

Several types of medication have been studied, including selective serotonin reuptake inhibitors (eg, citalopram, escitalopram, fluoxetine, fluoxamine, and sertraline), antiepileptic drugs (eg, topiramate and zonisamide), and medications typically indicated for attention deficit

hyperactivity disorder (eg, atomoxetine and lisdexamfetamine) [7,8,62-65], obesity [66], or narcolepsy, obstructive sleep apnea, and shift-work disorder (armodafinil) [67]). A limitation of the available data on medications for binge eating disorder is that most trials lasted 12 weeks or less, and thus little is known regarding longer term effects on binge eating [13,62].

Evidence supporting the use of pharmacotherapy includes randomized trials:

- A pooled analysis of 13 trials (n = 1254 patients) found that remission from binge eating occurred in more patients who received pharmacotherapy (eg, antidepressants or antiepileptics) than placebo (49 versus 29 percent) [62]. In addition, attrition was comparable for medication and placebo.
- A pooled analysis of eight trials (n = 416 patients) found that abstinence from binge eating occurred in more patients treated with antidepressants (primarily selective serotonin reuptake inhibitors) than placebo (40 versus 24 percent) [13]. Improvement of depression was also greater with antidepressants.

The benefit of pharmacotherapy for binge eating disorder symptoms appears to be less than the effect of psychotherapy or self-help. One review concluded that pharmacotherapy alone was less effective than CBT alone [7]. Also, meta-analyses of randomized trials found that pharmacotherapy provided a medium sized clinical effect for reducing binge eating, compared with a large clinical effect for psychotherapy trials and self-help therapy trials [8]. In a second set of meta-analyses, abstinence from binge eating episodes seemed to be greater with CBT than antidepressants [13]. However, it is difficult to compare the efficacy of different active treatments because none of the underlying trials involved a head-to-head comparison of pharmacotherapy with psychotherapy or self-help therapy. In addition, the comparators for pharmacotherapy were placebo, whereas the comparators for psychotherapy were waiting lists (no treatment) [13].

Specific medications — In patients with binge eating disorder, we suggest clinicians use selective serotonin reuptake inhibitors (SSRIs) because of efficacy and tolerability. Doses are comparable or greater than those usually used for unipolar major depression (table 1), and titration intervals are comparable as well. A meta-analysis of seven randomized trials (n = 335 patients) compared SSRIs with placebo for remission of symptoms and found a significant but clinically small advantage favoring SSRIs (relative risk 1.2, 95% CI 1.1-1.4) [62].

For patients with binge eating disorder who do not respond to one to two courses of an SSRI, we suggest either an antiepileptic (eg, topiramate) or a medication typically used for attention deficit hyperactivity disorder (eg, lisdexamfetamine). Two randomized trials (total n = 468) found that abstinence from binge eating episodes occurred in more patients treated with topiramate

than placebo (approximately 60 versus 30 percent) [13], a pooled analysis of three trials (n = 967) found that abstinence occurred in more patients treated with lisdexamfetamine than placebo (40 versus 15 percent) [13], and one trial (n = 49) found that reduction of binge eating episodes was comparable for methylphenidate and CBT [68]. In addition, topiramate, lisdexamfetamine, and methylphenidate each reduced weight. However, the potential for adverse effects limits the utility of these three drugs. Topiramate (table 2 and table 3) can cause cognitive impairment, paresthesias, and somnolence, whereas lisdexamfetamine and methylphenidate can cause anorexia, gastrointestinal distress, headaches, insomnia, and sympathetic nervous system arousal (eg, anxiety and dry mouth). In addition, central nervous system stimulants such as lisdexamfetamine and methylphenidate have a high potential for abuse or dependence.

No head-to-head trials have compared an SSRI with either topiramate or lisdexamfetamine.

For patients with binge eating disorder who have marked weight problems, some clinicians use drugs that may promote weight loss, such as lisdexamfetamine, topiramate, or zonisamide. However, the utility of these medications for long-term weight control is unknown.

COMBINING CBT AND PHARMACOTHERAPY

A systematic review of randomized trials concluded that in general, cognitive-behavioral therapy (CBT; the treatment of choice for binge eating disorder) plus pharmacotherapy does not reduce binge eating significantly more than CBT alone [62]. However, the specific drug topiramate may be one exception [69].

Psychoactive medications — Topiramate may be more effective as adjunctive treatment with CBT than antidepressants [20,69-71]. However, no head-to-head trials have been conducted.

Three randomized trials studies examined augmentation of CBT with an antidepressant medication (desipramine, fluoxetine, or fluvoxamine) for treating binge eating disorder [20,70,71]. None of the studies found a significant benefit to adding an antidepressant for the outcomes of binge reduction and depressive symptoms.

Augmentation with topiramate may further improve binge eating in patients with binge eating disorder. One randomized trial compared the addition of topiramate or placebo to group CBT (19 sessions) for 73 patients with binge eating disorder and obesity [69]. Remission of binge eating during the trial occurred significantly more often with topiramate augmentation compared with placebo augmentation (84 versus 61 percent of patients). Given the demonstrated benefits of topiramate monotherapy for reducing symptoms of binge eating

disorder, we suggest its use when clinicians attempt to enhance outcomes by combining CBT with a medication.

Antiobesity drugs — We recommend that clinicians not use antiobesity drugs in combination with CBT to treat binge eating because of lack of efficacy and serious adverse effects [72-74].

A 12-week randomized trial examined orlistat (an antiobesity drug that inhibits absorption of dietary fat) combined with self-help therapy based upon CBT in 50 patients with binge eating disorder [74]. Remission of binge eating was identical three months after treatment for patients who received orlistat compared with patients who received placebo (52 versus 52 percent).

We recommend that clinicians not use the appetite suppressants dexfenfluramine or sibutramine for treatment of binge eating disorder, despite their demonstrated efficacy in randomized trials [7,62,75]. Dexfenfluramine is no longer available in the United States and other countries because of cardiovascular adverse events, primary pulmonary hypertension, and valvular regurgitation [72]. Sibutramine also appears to cause serious adverse effects, and has been removed from the United States market [72,73]. These drugs are discussed separately. (See "Obesity in adults: Drug therapy".)

TREATING OBESITY IN PATIENTS WITH BINGE EATING DISORDER

Some patients with binge eating disorder who are overweight or obese seek treatment to lose weight rather than to stop binge eating. Most studies have found that weight loss interventions, including low and very low calorie diets, are similarly effective in patients who are obese and binge eat compared to patients who are obese but do not binge eat [60]. However, ongoing or re-emergent binge eating is associated with an increased risk of regaining weight. (See "Obesity in adults: Overview of management".)

Behavioral strategies — A review of clinical studies found that behavioral weight loss treatment, including a low or very low calorie diet and exercise, is the best option for patients who are obese and want to lose weight [60]. Patients in these studies lost about 3 to 5 kg, which represented 5 to 10 percent of initial body weight. Unfortunately, long-term maintenance of weight loss is rare. Behavioral strategies for weight loss are discussed separately. (See "Obesity in adults: Behavioral therapy" and "Obesity in adults: Dietary therapy".)

Behavioral weight loss therapy, which does not specifically target binge eating, may nevertheless reduce binge eating [16]. Behavioral weight loss therapy as a treatment to reduce binge eating is discussed separately. (See 'Behavioral weight loss therapy' above.)

Medications — Pharmacotherapy can provide modest short-term weight reduction in patients with binge eating disorder who are obese [4,60].

A meta-analysis of eight randomized trials (1236 patients with binge eating disorder) found that the average mean weight loss was significantly higher with medication compared with placebo (3.56 versus 0.08 kg) [62]. However, this represented only 3.2 percent of baseline body weight. In addition, the studies lasted only 10 to 24 weeks, and there was no follow-up to assess maintenance of treatment gains. A second meta-analysis of six randomized trials (236 patients) found no significant effect for pharmacotherapy in weight reduction [8].

The clinical effect of pharmacotherapy for weight loss varies among different classes of medications [7,62]. Drug therapy for obesity in general is discussed separately. (See "Obesity in adults: Drug therapy".)

Bariatric surgery — Bariatric surgery (gastric bypass or gastric banding) has been used to help patients with binge eating disorder and obesity lose weight [60,76,77]. Limited evidence suggests that binge eating at baseline does not affect postoperative weight loss. However, binge eating that occurs after bariatric surgery appears to be associated with poorer weight outcomes. (See "Bariatric surgery: Postoperative nutritional management".)

Psychotherapy — Psychotherapy is ineffective for treating obesity in patients with binge eating disorder [9,60]. Patients who stop binge eating with CBT typically show a statistically significant but clinically modest weight loss compared with patients who continue to experience binge eating episodes [16,17]. Interpersonal psychotherapy and dialectical behavior therapy are also ineffective for weight loss in patients with binge eating disorder who are overweight or obese [42,44].

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Eating disorders".)

SUMMARY AND RECOMMENDATIONS

• **Definition of binge eating disorder** – Binge eating disorder is marked by episodes of eating a large amount of food in a discrete period of time. These episodes are accompanied by a sense of disinhibition and lack of control over eating. Binge eating episodes occur, on average, at least one day per week for three months. (See 'Definition of

binge eating disorder' above and "Eating disorders: Overview of epidemiology, clinical features, and diagnosis", section on 'Diagnosis'.)

- **Evaluation** Assessment of the patient with binge eating disorder should include the patient's psychiatric status (attitude toward body weight and shape and comorbid psychiatric disorders), medical status (focusing on overweight- and obesity-related comorbidities when appropriate), and nutritional status (lifetime weight and dieting history, current eating pattern, and types of overeating). (See 'Evaluation' above and "Obesity in adults: Prevalence, screening, and evaluation".)
- Treating binge eating disorder
 - **Standard treatment** For patients with binge eating disorder, we suggest psychotherapy rather than behavioral weight loss therapy or pharmacotherapy (**Grade 2B**). (See 'Treatment planning' above and 'Psychotherapy' above.)
 - Psychotherapies that have demonstrated efficacy for treating binge eating disorder include cognitive-behavioral therapy (CBT), interpersonal psychotherapy, and dialectical behavior therapy. For patients with binge eating disorder, we suggest CBT rather than other psychotherapies (**Grade 2B**). CBT has been studied more often and also has the advantage of being adapted for use in self-help formats. However, interpersonal psychotherapy is a reasonable alternative. (See 'Psychotherapy' above.)
 - Alternative treatment for patients with overweight or obesity For patients with binge eating disorder who are overweight or obese and do not have access to psychotherapy, decline it, or do not respond to it, we suggest behavioral weight loss therapy rather than other treatments (**Grade 2B**). However, pharmacotherapy with a selective serotonin reuptake inhibitor is a reasonable alternative, as is the use of topiramate, zonisamide, or lisdexamfetamine for patients who have marked weight problems. (See 'Behavioral weight loss therapy' above and 'Pharmacotherapy' above.)
 - Treating incomplete response to standard treatment Some patients treated with CBT may achieve only a partial response. When augmentation is desired, we suggest adding a selective serotonin reuptake inhibitor rather than other drugs (**Grade 2C**). (See 'Combining CBT and pharmacotherapy' above.)
- Treating obesity in patients with binge eating disorder For patients with binge eating disorder who are overweight or obese and primarily interested in losing weight, we suggest behavioral weight loss therapy rather than psychotherapy or pharmacotherapy (Grade 2B). Psychotherapy or pharmacotherapy may be offered to address persistent

episodes of binge eating. (See 'Treating obesity in patients with binge eating disorder' above and "Obesity in adults: Overview of management".)

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