Bulimia and Sleep Disturbance

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Bulimia nervosa is an eating disorder characterized by persistent overconcern with body weight and shape; recurrent episodes of binge eating; a minimum of two binge-eating episodes a week, on average, for at least 3 months; a feeling of lack of control over eating behavior during binges; and regular self-induced vomiting, use of diuretics or laxatives, strict dieting or fasting, or vigorous exercise to prevent weight gain.[1] The prevalence of bulimia nervosa is difficult to ascertain because of the differing diagnostic criteria used in epidemiological studies, but it is almost exclusively confined to women and appears to affect about 5% of university and college women.[2]

Over 75% of bulimia nervosa sufferers exhibit psychiatric symptomatology similar to that of patients with major affective disorder.[3] Pessimistic thinking is reported in 71% of bulimia nervosa patients, impaired concentration in 60%, lassitude in 51%, sadness in 51%, sleep disturbance in 35%, inner tension in 35%, inability to feel (blunting of emotions) in 28%, and suicidal thoughts in 17%.[4]

Disturbed sleep itself poses special problems for individuals who are attempting to exert rigorous control over appetite and eating impulses. The following case report is a particularly good example of how nocturnal eating binges perpetuate abnormal eating attitudes and behaviors.

CASE REPORT

A 22-year-old female student sought medical assistance in February 1988 for a problem defined by her as "a sleep and eating disorder" of 4 months' duration. Major factors in her decision to seek assessment and treatment were impaired academic performance secondary to chronic fatigue, difficulties with weight regulation, and the friction caused by her compulsive nocturnal binge eating of food belonging to the three other young women with whom she shared living accommodation.

She had been a poor sleeper for some years, experiencing particular difficulty in getting to sleep during times of stress such as end-of-term examinations. Her sleep disturbance had worsened at the beginning of November 1987 after the termination of a romantic relationship, and she began to waken out of her sleep at 2 or 3 o'clock every morning. These nocturnal waking episodes were accompanied by intense food cravings, which prevented her return to sleep until they had been satisfied. Predictably, her weight rose alarmingly in response to these nocturnal eating binges, and she resorted to drastic daytime dieting and such desperate remedies as having her housemates lock her in her bedroom overnight. She felt quite unable to control her eating impulses and, indeed, believed that her whole life was out of control She also believed that her inability to control her eating impulses had a severely adverse effect on her self-esteem, which in turn caused her to feel ill at ease and awkward in social situations.

She was 5 ft 4 in. tall and weighed 139 pounds, her highest adult weight. Her lowest adult weight, 90 pounds at age 17 years in her penultimate year of high school, had been achieved by rigorous restriction of calorie intake and was accompanied by suppression of her menstrual cycle. She had maintained her body weight between 100 and 110 pounds for the remainder of high school and the first 2 years at the university by restricting her calorie intake and exercising daily. Her weight had then gradually risen to its present level over 2 years partly because she had reduced her exercise time and partly because of her more recent nocturnal eating binges. Her father had a history of recurring bouts of depression.

Bulimia nervosa was diagnosed, and the patient was enrolled in an outpatient therapy program based on the method of Fairburn[5] (cognitive-behavioral therapy combined with insight-oriented psychotherapy) with concomitant tricyclic antidepressant drug treatment, amitriptyline 25 mg daily at first, later increased to 50 mg daily. The patient discontinued her antidepressant medication after 1 month because she did not feel that it was helping her, and she kept follow-up appointments spasmodically. At the

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time of writing this report, 14 months after her original presentation, the patient's nocturnal eating binges have ceased, and daytime eating binges are reduced in duration and severity.

DISCUSSION

Although sleep disturbance has long been recognized as a component of the depressive symptomatology common in bulimia nervosa patients, it is only comparatively recently that extreme examples of nocturnal binge eating have been recognized as part of a primary eating disorder syndrome. The only recent case report associating nocturnal eating binges with bulimia emphasized the anatomic proximity of the hypothalamic centers controlling sleep and appetite,[6] presumably postulating some hypothalamic lesion as the single common cause. Subsequent comment, however, established that the patient concerned did not have a primary sleep disorder and cast doubt on the theory of simultaneous hypothalamic control center dysfunction.[7]

There is ample historical evidence for the association of nocturnal eating binges with abnormal eating attitudes and behaviors. Bell[8] has written an engrossing account of the role played by ascetism in the mystical experiences of medieval Italian women saints and gives the following two especially credible examples of women who resorted to nocturnal eating binges during prolonged fasts.

Saint Veronica, Orsola Giuliani before she entered religious life, was born in central Italy on December 27, 1660. She became a member of a cloistered Capuchin community shortly before her 17th birthday and soon attracted the attention of her sisters by her physical activity and fasting. One of her fasts is reputed to have lasted 5 years, during which time she slept little and ate nothing at all for 3-day periods. Curiously, one or more of the sisters observed her on numerous occasions gorging food in the convent kitchen at times when she was supposed to be busy at her devotions.

Saint Mary Magdalen de' Pazzi made her profession of faith in the convent of Saint Maria degli Angeli in 1584 at the age of 18 years. She felt herself called to rigorous fasting by divine command, but experienced constant craving for food. Ordered to eat by her superiors, who were concerned about her health, she induced vomiting. She, too, was observed gorging food in secret and, like Saint Veronica a century or so later, successfully persuaded the Mother Prioress that the person seen gorging and thought to be her was in fact a diabolical apparition in her shape and form, sent with the express intention of sowing the seed of doubt about her piety in the minds of her sisters.

The authors dare not imperil their immortal souls by impugning the sanctity of two such good and holy women. They simply point to a more prosaic explanation for nocturnal involuntary eating binges than diabolical intervention or the peculiarly infortuitous and simultaneous occurrence of a primary sleep disorder in eating disorder patients. Bulimic patients who have a sleep disturbance and experience nocturnal waking find themselves in a position of sensory deprivation where appetite and eating impulses are difficult to control. The techniques of distraction that most bulimics use in the rigorous fasting arc of the starve–binge cycle of bulimic behavior are no longer effective in this situation, hence the uncontrollable urge to eat and the inability to sleep until the impulse has been satisfied.

The patient who is the subject of this case report clearly satisfied the *Diagnostic and Statistical Manual of Mental Disorders,* ed 3 (revised)[1] criteria for bulimia nervosa and may well have suffered anorexia nervosa during the time when her weight was reduced to 90 pounds, likely being one of the 25% of recovered anorectics who subsequently develop bulimia.[5] Her failure to respond to tricyclic antidepressants may have been due to poor compliance, inadequate dose, inadequate duration of treatment, or appetite stimulation as a side effect of the drug.[9] Preparation of readily available low-calorie snacks and instructions to eat them within a reasonable time of nocturnal waking, before appetite became uncontrollable, were effective strategies in reducing the severity of nocturnal eating binges in the short term and greatly enhanced the patient's ability to control her calorie intake as part of a long-term treatment plan.

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