Alcoholism in the families of bulimic anorexics[1]

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To examine the hypothesis that alcoholism and bulimic anorexia are related disorders, a retrospective review of the family history of alcoholism in cases of anorexia nervosa with bulimia was done. Of the probands' 148 first-degree relatives 18 years of age or older, 18 (12.2%) were alcoholic—a figure 2½ times the rate of alcoholism for the general population. This study supports the hypothesis that alcoholism and bulimic anorexia are related disorders, but the nature of the relationship remains unclear. Future studies are suggested to explore possible biological linkage between bulimic anorexia and alcoholism.

Index terms: Alcoholism, familial and genetic • Appetite disorders

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Anorexia nervosa is a severe disorder characterized by self-induced starvation, preoccupation with weight loss, and distorted image of the body. Bulimia, or episodic binging on food, with subsequent self-induced vomiting may be present with or without starvation and weight loss. In one study, bulimia has been reported in 47% of anorexia nervosa cases[1] and has been associated with a worsened prognosis.[2–4]

In recent years, there has been a tendency to regard bulimia as a disorder distinct from, but related to, classical anorexia nervosa on the basis of clinical course[5] or psychological testing.[6] Nonetheless, there is considerable overlap between bulimia and anorexia nervosa, with some patients demonstrating characteristics of both disorders. Such patients have been identified as "bulimarexics," or "bulimic

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anorexics"; even "bulimia nervosa" is used as a diagnostic label.[5] Since binging or loss of control over food intake is a prominent feature of this group, a possible relationship to a similar illness involving loss of control, that is, alcoholism, was proposed. Family studies of first-degree relatives are often used to reveal relationships between psychiatric disorders. Such family studies, including adoption studies, have supported a finding of genetic transmission of predisposition to alcoholism.[7–10] Evidence of a possible relationship between familial alcoholism and bulimia has not been reported previously. Some alcoholism studies, however, have been done with mixed (bulimic and nonbulimic) anorexic populations. Halmi and Loney[11] found alcoholism in 12 (12.8%) of the fathers and 2 (2.1%) of the mothers of 94 patients with anorexia nervosa. Alcohol abuse was found by Theander[12] in 6 (6.4%) of the fathers and none (0%) of the mothers of 94 patients with anorexia nervosa. Flemenbaum[13] theorized that anorexia, bulimia, unstable weight, and chemical dependency were syndromes relating to a common underlying depressive disorder.

Method

To examine the hypothesis that alcoholism and bulimic anorexia are related disorders, a retrospective family history review was done of the charts of 43 patients hospitalized for anorexia nervosa with bulimia at The Cleveland Clinic Foundation. Bulimic subjects included 42 females and 1 male. Patients ranged in age from 15 to 31 (median age, 19; mean age, 19.1). Patients were included in this study if they showed a pattern of repetitive binging on food, frequent compulsive self-induced vomiting, and significant weight loss. Charts were reviewed for indications of alcoholism in all first-degree relatives, that is, in siblings and parents of the bulimic anorexic probands, only. These relatives were designated as "alcoholic" if they had a previous diagnosis of or treatment for alcoholism or if they had evidence of frequent, excessive, problematical alcohol intake. Alcoholism was determined not by specific amounts consumed or by frequency, but rather by patterns of use destructive to family life, job status, physical or emotional health, or financial status. Alcoholism is generally defined as a syndrome or illness characterized by a repetitive pattern of alcohol excess, with disruption of psychosocial functioning, tolerance, and withdrawal.

Rates of alcoholism in adult first-degree relatives of bulimics were compared to rates of alcoholism in the general adult population. Rates were also compared for parents of bulimics and parents of mixed anorexics from previous studies. Comparisons were made for male relatives only, female relatives only, and combined sexes. The comparisons between populations were carried out with the chi-square test, or in case of females where expected frequencies were small, exact binomial tests or Fisher's exact test.

Results

In the families of the 43 bulimic anorexics, there were 148 adult (18 years of age and older) first-degree relatives (73 men and 75 women). Thirteen of the 43 patients' fathers (30.2%) and 1 patient's mother (2.3%) fulfilled our criteria for alcoholism. Alcoholism in male relatives was far more common in the female relatives; there were 13 fathers and 3 brothers, but only 1 mother and 1 sister among the alcoholic relatives. Thus 16 of 73 adult male relatives (21.9%) were alcoholic, but only 2 of 75 female (2.7%) relatives were. Combining male and female totals shows an overall incidence of alcoholism of 12.2% (18 of 148) in adult first-degree relatives of bulimic anorexics. Since retrospective chart reviews have been found to significantly underestimate the extent of family pathology,[14] the actual rate of familial alcoholism in bulimics may be higher.

Discussion

This retrospective study revealed a high rate of alcoholism among the adult male first-degree relatives of bulimic anorexics. The rate of alcoholism for male relatives (21.9%) was significantly higher ($P < 0.001$) than the expected estimated rate for men in the general population (5%). Although the 5% general male population alcoholism rate is an estimate, and no exact figures exist dealing with alcoholism in the general population, the difference remains significant with a 95% confidence level if the general male population alcoholism rate is below 12.4%. The rate for alcoholic female relatives of bulimics (2.7%) was not significantly higher than the estimated rate (1%) in women in the general population. The combined (men plus women) rate for relatives of bulimics (12.2%) is significantly higher ($P < 0.001$) than the estimated rate for combined sexes in the general population (6%).

Since previous studies of alcoholism in anorexia nervosa (mixed) focused on parents only,

rather than on all first-degree relatives, a comparison was made with parents of our bulimic subjects. Combining the studies of Halmi and Loney[11] with that of Theander[12] for parents of mixed anorexics reveals alcoholism in 18 of 188 fathers (9.6%) and 2 of 188 mothers (1.1%). Our rate for fathers of bulimics (30.2%) was significantly higher ($P < 0.001$) than that for the mixed anorexic fathers groups, but not significantly different for mothers (2.3%) of bulimics versus mothers of mixed anorexics.

Thus, our findings provide supportive evidence for an association between bulimic anorexia and familial alcoholism, although the nature of the association remains unclear. As Flemenbaum[13] suggests, both bulimia and alcoholism may be related to an underlying affective (depressive) disorder. Alternatively, bulimic anorexia and alcoholism might be physiologically related disorders with sex-specific manifestations, since bulimia occurs predominantly in young women, whereas alcoholism occurs predominantly in their male relatives. Other explanations are possible, and bulimia might be a reaction to the stress of living with an alcoholic parent.

In the future, these "nature versus nurture" questions could be approached with twin studies, adoption studies, and with studies of alcoholism in bulimic patients themselves. Prospective rather than retrospective designs would allow greater diagnostic specificity and more in-depth questioning of family members. A comparison with normal controls might also be possible with a prospective design. A comparison of alcoholism between bulimic and nonbulimic anorexic probands might help to determine whether bulimic anorexia is indeed a distinct clinical entity, separate in pathophysiology from anorexia nervosa.

Our data support the hypothesis that alcoholism and bulimic anorexia are related disorders. Further studies are suggested to explore a possible biological linkage between these two disorders.

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