Twin Study Shows Anorexia Has a Genetic Component

BY KATE JOHNSON
Montreal Bureau

Anorexia nervosa is a heritable psychiatric disorder with warning signs that can be identified decades before the onset of the illness, the largest twin study on the disorder shows.

"Genes play a substantial role in the development of this illness; there is a clear biological component," said lead author Cynthia M. Bulik, Ph.D., in a teleconference about the new research (Arch. Gen. Psychiatry 2006;63:305-12).

The findings are good news for patients and their families, said Dr. Bulik, the William R. and Jeanne H. Jordan Distinguished Professor of Eating Disorders at the University of North Carolina, Chapel Hill.

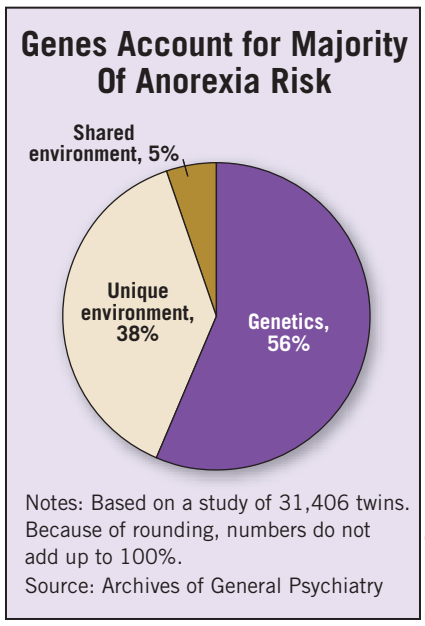
"We have gone through too much time where parents have been blamed. Now families and patients can be liberated and empowered," Dr. Bulik said. "This helps them understand they are fighting their biology."

The study included 31,406 twins from the Swedish Twin Registry. The twins, born during 1935-1958, were sent a questionnaire in 1973 that assessed demographics, physical illnesses, physical activity level, personality, stress, and work exposures. Seven potential predictors of the development of anorexia nervosa (AN) were evaluated in the questionnaire, including body mass index, gastric problems, excessive exercise, perceived life stress, neuroticism, and extraversion. Zygosity information also was obtained.

The subjects were then interviewed in 1998-2002 at a median age of 54.6 years to establish who had gone on to develop AN, and to determine the predictors.

The study found that 1.2% of the females and 0.29% of the males met diagnostic criteria for a lifetime history of AN, a prevalence in line with other studies of the disorder. However, when the cohort was divided into those born in 1944 or earlier, and those born in 1945 or later, there was evidence of an increasing prevalence in women (0.65% prevalence in the older female cohort, compared with 1.56% in the younger group). Prevalence rates did not change for men.

Examining the incidence of AN as it related to zygosity, the researchers found a much higher concordance rate for AN among monozygotic twins than among dizygotic twins—signaling a clear genetic component, Dr. Bulik said. The analysis revealed that genetics accounted for 56% of an individual's risk of developing the disorder, unique environment accounted for 38%, and shared environment accounted for 5%.



This information is promising in the search for targeted prevention and medical treatments for AN, she said. "Research like this shows [AN] is not a sociocultural disorder. We need to look elsewhere. We need to look at genes." She said other work in this field has identified several genes on chromosome 1 that might be involved in the development of AN and could be medication targets.

"I am perplexed and disappointed that we don't have medication for AN, and this is in part because we have not yet explained the biology adequately," she said.

The study also found that of the potential predictors of AN assessed in the 1973 questionnaire, only neuroticism was predictive of the development of the disorder. The finding is notable because there have been few "truly prospective" risk-factor studies of AN, Dr. Bulik noted in the study. "What remains unknown is whether neuroticism is a nonspecific predictor of the development of psychopathology in general or whether it is specifically predictive of the emergence of AN." ■

Anorexia Patients Need Realistic Nutrition Goals

BY PATRICE WENDLING
Chicago Bureau

TUCSON, ARIZ. — Nutritional rehabilitation may require involuntary hospitalization in patients with eating disorders. "These behaviors can be easily defined as self-harming behaviors, and these patients can and should be committed if they fall below a certain weight," Dr. Chelsea Chesen reported at a psychopharmacology conference sponsored by the University of Arizona.

The most important rules for a psychiatrist are to put safety first, take a multidisciplinary approach rather than going it alone, and create an individualized treatment plan.

Weight goals should be realistic, but there also needs to be an understanding that, should the patient fail to meet the goal, there will be certain consequences, including hospitalization. A weight gain of 0.5-1.5 pounds/week is appropriate for outpatients, and 2-3 pounds/week for inpatients, said Dr. Chesen, of the psychiatry department at the university.

Clinicians should consult with a nutritionist, if possible, to develop regular, structured diets for their patients. They also might want to adopt a behavioral contract with the patient or the patient's parent for eating meals and choosing foods. Anxiolytics given 30-60 minutes before meals can help patients with anxiety about eating.

It is particularly important to encourage patients with anorexia to eat small, frequent meals, typically about six a day. "Part of the reason for that is that they will be extremely uncomfortable physically if they take in a large amount of food because their gut won't know what to do with it, and it takes time to literally process the food," she said.

Some patients referred to Dr. Chesen have been on total parenteral nutrition, but this approach doesn't teach the gut to work properly for the long term and can cause liver abnormalities, she said.

If nasogastric feeding is necessary, she recommends using the smallest tube possible, such as a pediatric tube, and feeding continuously over 24 hours at the slowest possible rate. A bolus or gastrostomy tube should not be used to administer feedings.

Too-rapid refeeding is a major problem in patients with anorexia, because their bodies can become overwhelmed with the sudden intake of nutrients, leading to severe fluid retention, electrolyte disturbances, arrhythmias, seizures, coma, and death. "You want to be really gentle and really slow," Dr. Chesen said. "Keep in mind that they didn't get this way overnight, so you're not going to get them healthy overnight."

Physical examinations and laboratory evaluations should be performed every 2 weeks, especially in patients who are severely malnourished at the start of treatment. Clinicians should be aware that during refeeding, changes in body shape and clothing fit can trigger severe anxiety or depression.

All patients with eating disorders should take a multivitamin plus vitamin D and calcium. Because of the risk of death secondary to cardiac arrhythmias in patients with anorexia, clinicians should consider oral vitamin K supplementation, which has been shown to normalize the QT interval. "I'm not saying you should put every anorexic on potassium, but they should have an EKG, and their potassium levels should be followed by their primary care physician," she said. ■

Methylphenidate Reduces Fatigue Safely in Hospice Patients

BY MITCHEL L. ZOLER
Philadelphia Bureau

NASHVILLE, TENN. — Treatment with methylphenidate safely reduced fatigue and depression in hospice patients in a controlled study with 30 patients.

"Treatment with methylphenidate may restore coping modalities that are compromised in patients with advanced illness," Dr. Christopher Kerr and associates reported in a poster at the annual meeting of the American Academy of Hospice and Palliative Medicine. "Methylphenidate's efficacy appeared to go beyond improving depression, because depression was not the sole factor that predicted a reduction in fatigue," they said. The drug's efficacy exceeded acting as a stimulant because it also reduced anxiety and promoted sleep.

The study included patients with a terminal illness who had symptoms of fatigue for at least 2 weeks and a fatigue score of at least 4 on the Edmonton Symptom Assessment Scale (ESAS). The study excluded patients with a history of seizures or cardiac arrhythmias, patients with dementia, psychosis, cognitive impairment, severe hepatic or renal dysfunction, and patients treated with antidepressant medication.

Patients were randomized to treatment with 5 mg of methylphenidate b.i.d. or placebo for 2 weeks. The methylphenidate dosage could be increased by 5 mg/day every few days based on patient responses and adverse effects. During the study, the dosage of methylphenidate used ranged from 10 mg to 40 mg/day. Patients were assessed after 3, 7, and 14 days of treatment.

After 14 days, the average ESAS fatigue score among the 15 patients treated with methylphenidate fell from 7.4 at baseline to 2.69, a statistically significant difference. Among the 15 patients treated with placebo, the average score fell from 6.93 at baseline to 6.58, a nonsignificant difference, reported Dr. Kerr, medical director of Hospice Buffalo (N.Y.) Home Care, and his associates.

The patients showed a similar pattern of changes in fatigue when assessed by two other measures: the Piper Fatigue scale, and the Visual Analog Scale for Fatigue. Reductions in fatigue among patients getting methylphenidate occurred in a dose-dependent manner, and began to appear 3 days after the start of treatment.

The drug also was effective at reducing depression scores. Among the patients treated with methylphenidate, the average score on the Beck Depression Inventory scale fell by 22% after 14 days of treatment, compared with baseline, the average score on the Center for Epidemiologic Studies–Depression Scale fell by 33%, and the average ESAS depression score fell by 35%. Changes from baseline in the placebo group were much smaller.

Improvements also were seen in additional scores measured with the ESAS, including scores for well-being, anxiety, and pain. Methylphenidate treatment did not significantly improve functional status.

Vital signs were not changed in patients taking methylphenidate for 2 weeks, and adverse effects were minor. The drug was not discontinued in any patient because of toxicity. Methylphenidate treatment was associated with worsening nausea. ■