Heart Problems Can Occur Early in Anorexia

BY BETSY BATES

LOS ANGELES — Significant cardiac abnormalities were detected in nearly a third of adolescent girls hospitalized for the first time with anorexia nervosa in a San Francisco study, raising questions about whether detailed cardiac work-ups may be warranted early in the course of the disease.

Mortality estimates for anorexia range from 5% to 20%, with a third of adult deaths due to cardiovascular complications, Dr. Melissa Slivka said at the annual meeting of the Society for Adolescent Medicine.

In adolescents, much less is known about the toll the disease takes on the cardiovascular system and about when changes begin, said Dr. Slivka, a second-year fellow in adolescent medicine at the University of California, San Francisco.

She and her associates enrolled 31 adolescents with a mean age of 15 years whose reported food restricting behavior averaged 8.5 months.

"We chose subjects being hospitalized for the first time to specifically look at cardiovascular abnormalities in subjects with shorter-term restricting histories rather than those with a more chronic illness," she said.

The population was mostly female (97%) and white or Asian/Pacific Islander (75%). On admission, the patients were at 80% of their ideal body mass index (BMI), based on 50th percentile ideal body weight for age. Their mean length of hospitalization was 16.5 days.

During the first 24 hours of hospitalization, their mean heart rate was 43.5 beats per minute (bpm), with 26 of 31 (84%) patients meeting criteria for sinus bradycardia (less than 50 bpm).

Their mean orthostatic heart rate change when they went from lying down to standing was 29.3 bpm, with 18 of 31 (58%) patients meeting criteria for orthostatic intolerance (an increase of more than 30 bpm).

Resting electrocardiography was performed, with special attention paid to prolonged QTc intervals. The patients' mean QTc was 412 milliseconds, with 5 of 31 (16%) adolescents meeting criteria for prolonged QTc (greater than 440 milliseconds). No other arrhythmias were found, Dr. Slivka reported.

Doppler echocardiography revealed pericardial effusion in 4 of 31 (13%) adolescents and mitral valve prolapse in 2 of 31 (7%). One patient had both findings on echocardiography.

In all, 10 of 31 patients (32%) had at least one significant cardiac finding (prolonged QTc, pericardial effusion, and/or mitral valve prolapse), despite the short duration of their illness.

The adolescents with cardiac findings were at 73% of their ideal BMI, compared with 83% in those without major cardiac issues, a significant difference. No other significant correlational factors were found.

"This study supports [the hypothesis] that cardiac abnormalities occur early in the anorexia nervosa disease course and may warrant consideration and possible work-up even early in the disease and at the time of first hospital admission," she concluded.

Adolescents whose weight is a low percentage of their ideal BMI at diagnosis may warrant special concern, she added.

Dr. Gary Remafedi, professor of pediatrics at the University of Minnesota, Minneapolis, said the study led him to question whether he should incorporate an echocardiogram into his initial work-up of patients with anorexia nervosa.

"I wonder if there were other indicators of the mitral valve prolapse or pericardial effusions … such as distinctive heart sounds or murmurs suggestive of prolapse," he said.

The issue of whether to order an echocardiogram soon after diagnosis "remains unanswered," Dr. Slivka responded.

"In general, mitral valve prolapse, pericardial effusion, and other valve abnormalities may be audible on physical exam. Pericardial effusion may be noted on ECG. However, in our study patients, these changes were not noted on exam," Dr. Slivka said in an interview.

Neither Dr. Slivka nor her coauthors reported any conflicts of interest with regard to their study. ■