Screen ADHD Patients First, Heart Group Says

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The new recommendation calling for electrocardiogram screening for children with attention-deficit/hyperactivity disorder before initiating pharmacologic treatment is not based on data, according to an expert in child and adolescent psychiatry.

Dr. David Fassler said that at this point, there is no evidence that such screening would enhance safety or reduce the risk of rare but potentially serious heart-related problems.

"The best advice is for parents to talk to their child's doctor," Dr. Fassler, clinical professor of psychiatry at the University of Vermont, Burlington, said when asked about the recommendations. "They can then decide together what, if any, additional evaluation may be warranted."

Under the recommendations, issued in April by the American Heart Association, if patient history, family history, clinical examination, and/or ECG results suggest a higher risk, a referral to a pediatric cardiologist is warranted.

For patients currently taking methylphenidate, amphetamine, or another treatment for ADHD, a comprehensive assessment of cardiac risk is reasonable if deemed necessary, according to the AHA scientific statement published in Circulation, available at circ.ahajournals.org (Circulation 2008 April 21 [doi:10.1161/circulation.aha.107.189473]).

The AHA recommendations, offered by Dr. Victoria L. Vetter of the Children's Hospital of Philadelphia and her colleagues, say it is important to pay particular attention to symptoms such as palpitations, near syncope, or syncope that might indicate a cardiac condition.

Consider all other medications taken by a pediatric patient, including over-the-counter agents, according to the recommendations, titled "Cardiovascular Monitoring of Children and Adolescents With Heart Disease Receiving Stimulant Drugs."

Cardiac risk assessment of all children before prescribing ADHD medications, ongoing monitoring, and specific guidelines for children with known structural heart disease or other heart conditions are outlined in the statement.

In 1999, the AHA addressed concerns about potential adverse cardiac effects of psychotropic medications in children, but made no specific recommendations about stimulants. However, "since that time, a constellation of circumstances has come together, necessitating a second look at this complicated issue," the authors of the current statement wrote.

The authors note that ADHD might be more prevalent among children with heart disease than the estimated 4%-16% of the general population. One study, for example, indicated that 45% of children with heart disease had abnormal attention scores and 39% had abnormal hyperactivity scores (Pediatrics 2000;105:1082-9).

The recommendation for selective ECG screening is new. The writing group suggested the testing will increase the likelihood of identifying significant cardiac conditions such as hypertrophic cardiomyopathy, long QT syndrome, and Wolff-Parkinson-White syndrome that might place the child at risk.

"We recognize that the ECG cannot identify all children with these conditions but will increase the probability," wrote Dr. Vetter and the six other experts on the American Heart Association Congenital Cardiac Defects Committee of the Council on Cardiovascular Disease in the Young and the Council on Cardiovascular Nursing.

The American Heart Association's recommendations also say a cardiac risk assessment is necessary for patients already on ADHD drugs.

"The use of selective ECG screening in this population is thought to be medically indicated and of reasonable cost." Dr. Vetter, the majority of writing group members, and the four physician reviewers had no relevant financial disclosures.

A physician familiar with interpretation of pediatric ECG should assess results, according to the recommendations. A repeat ECG might be useful after initiation of ADHD medication if there is a change in relevant family history or, if the first ECG was performed before the age of 12, after the child turns 12 years old.

Initial assessment of a child with ADHD should include personal history of fainting or dizziness, particularly with exercise; seizures; rheumatic fever; chest pain or shortness of breath with exercise; an unexplained, noticeable change in exercise tolerance; palpitations, increased heart rate, or extra/skipped heartbeats; history of hypertension; and other factors.

Relevant family history includes sudden or unexplained death of someone young, sudden cardiac death or myocardial infarction before age 35 years, sudden death during exercise, and cardiac arrhythmias.

During physical examination, assess the child for an abnormal heart murmur and other cardiovascular abnormalities, including hypertension. It also is important to assess the child for irregular or rapid heart rhythm, as well as findings suggestive of Marfan syndrome.

Refer any patient with significant findings to a pediatric cardiologist for further evaluation, because a routine physician examination might miss some conditions associated with sudden cardiac death, the authors recommended. Pediatricians should perform ongoing assessment of patients identified at risk at each subsequent visit, according to the guidelines. A physical examination including blood pressure and pulse assessment is suggested. "There are no clinical studies or data indicating that children with most types of congenital heart disease are at significant risk for sudden cardiac death while on these [ADHD] medications," the authors wrote. Nevertheless, the authors addressed cardiovascular monitoring of children with known structural heart disease or other heart conditions.

"It is reasonable to consider the use of stimulant medication in patients with congenital heart disease that is not repaired or repaired but without current hemodynamic or arrhythmic concerns or congenital heart disease that is considered to be stable by the patient's pediatric cardiologist unless the patient's pediatric cardiologist has specific concerns."

Dr. Fassler thinks that more large-scale, long-term research on stimulants and other medications used to treat child and adolescent psychiatric disorders are needed. "Such studies will ultimately help us determine who is most likely to respond to specific interventions, and if there are particular groups of kids who may be at increased risk for certain side effects," he said.

Future studies are warranted, the authors wrote, to assess the true risk of sudden cardiac death associated with use of stimulant drugs in children and adolescents with and without heart disease. ■

Atomoxetine Not Effective for ADHD/ODD

Atomoxetine had no enduring effect on oppositional defiant disorder symptoms in a new report of manufacturer data from children with both ODD and attention-deficit/hyperactivity disorder.

The findings from the 8-week, multicenter, placebo-controlled trial run counter to the results of a previous study that suggested atomoxetine (Strattera) could improve symptoms in patients with both disorders. Atomoxetine, a norepinephrine reuptake inhibitor, was approved in 2002 as the first nonstimulant medication for attention-deficit/hyperactivity disorder (ADHD). ODD is thought to be present in 40%-60% of children with ADHD.

In the study, 156 children with both disorders received 1.2 mg/kg per day of atomoxetine for 8 weeks, and 70 received placebo. The subjects, aged 6-12 years, came from 17 centers in Europe. Improvement was measured on the Swanson, Nolan, and Pelham Rating Scale–Revised, which has 18 items used to grade ADHD symptoms and 8 used to grade ODD symptoms.

ADHD symptoms were significantly improved on the rating scale, but ODD symptoms were no better at week 8. Although those given the active treatment had improved ratings relative to placebo-treated children at weeks 2 and 5 of the trial, "it remains uncertain whether atomoxetine exerts a specific and enduring effect on ODD symptoms," said Dr. Mark E. Bangs of Lilly Research Laboratories, Indianapolis, and his colleagues in the Atomoxetine ADHD/ODD Study Group (Pediatrics 2008;121:e314-20).

"Patients with ADHD and ODD will not be disadvantaged by treatment with atomoxetine, but additional pharmacologic or psychological strategies may be needed to address the ODD symptoms, they said. Dr. Bangs and several of his coinvestigators are employees and shareholders of Eli Lilly & Co., which funded the study and manufactures Strattera.

—Timothy F. Kirn