Study Adds to Debate over Heart Tests for Athletes

by RICHARD KNOX

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Every week or two, there's a new story about a young ball player or runner who drops dead without warning.

Sixteen-year-old John Babbitt of Chatham, N.J., was one of them — a strapping, three-season athlete.

One evening, he went down to play basketball in an intramural league that was part of his church youth group.

“He was running down the court and he just collapsed and died instantaneously,” says Joanne Babbitt, his mother.

That was Feb. 26, 2006.

An autopsy showed that John Babbitt died from hypertrophic cardiomyopathy (HCM), an enlarged and thickened heart. It’s the most common cause of sudden death among young athletes.

“His heart was extremely thick,” his mother says. “There was a 95 percent chance that if he had had an electrocardiogram, that would have shown up, because the progression of the disease within John at that time was quite significant.”

Each time one of these tragedies occurs, it raises the question of whether anything can be done to prevent them.

A study in this week’s New England Journal of Medicine shows that abnormal electrocardiograms (EKGs) do sometimes predict cardiac disease in young athletes.

The study documents the experience of a 26-year-old screening program in Italy. By law, every Italian athlete, from elementary school through the pros, must have an EKG before he or she can play sports.

Those with abnormal EKGs get other tests to see if their hearts are structurally abnormal.

“The Italian experience clearly demonstrates that screening is feasible and also is very efficient,” says Dr. Antonio Pellaccia of the Italian Institute of Sports Medicine and Science, an arm of the Italian National Olympic Committee. Pellaccia is the lead author of the new study.

Pellaccia and his colleagues went through the records of 12,550 athletes who had screening EKGs and identified 81 who had severely abnormal tracings.

Initially there wasn’t anything obviously wrong with their hearts. There was nothing to disqualify them from competition. In fact, 14 were Olympic athletes.

But over an average follow-up of nine years, five of those athletes with abnormal EKGs developed cardiomyopathy. One died suddenly at the age of 24; another survived cardiac arrest.

The bottom line: A severely abnormal EKG does sometimes predict later heart disease. Some had thought an abnormal EKG could be a harmless result of athletic training, the so-called “athlete’s heart.”

Dr. Barry Maron says the new results tell doctors they ought to monitor young people who have abnormal EKGs, even if their hearts appear normal. But Maron says the study does not mean that all U.S. athletes should — or could — get EKG screening.
Maron, of the Minneapolis Heart Institute Foundation, is a leading expert on sudden death in athletes. He tends a national registry that has recorded 1,900 such cases, and he's also a co-author of the new study.

"I wouldn't take the position that we don't want to do EKG screening because it costs too much. I wouldn't want to put a price tag on a young athlete's life that could be saved through screening," Maron says. "But the issue is resources and the practicality. It just can't be done in the United States."

Maron says sudden deaths due to HCM in apparently healthy young people occur on average once a week, or about 60 a year. The cases are getting increasing attention from news media and Internet postings, he says, but taken in context, the deaths are actually pretty rare. There are more than 10 million young athletes in the United States.

"We're talking about a country of 300 million people with 100 or fewer sudden premature deaths due to cardiomyopathy," Maron says. "And only some of these would be detectable through EKG screening."

Screening everybody, he says, would be prohibitively expensive. "It's hard to know exactly, but it could be as much as $2 billion a year."

Maron adds that it would also expose doctors to emotional disputes — and lawsuits — when they recommend that a young athlete be barred from play.

Lisa Salberg tends to agree, even though she was diagnosed with cardiomyopathy when she was 12, and the disease killed her sister. Salberg founded an advocacy group called the Hypertrophic Cardiomyopathy Association. She, her father and her daughter all have had automatic defibrillator devices implanted to shock their hearts back to life if they suddenly stop beating.

"There are some people that say we can only do so much to protect" young people with underlying HCM, Salberg says. "Others say if it costs a million dollars to save a life, we should do it. Others like myself are somewhere in between."

Salberg advocates tightening up screening programs already in place in most high school and collegiate athletic programs that ask parents to disclose any family history of premature cardiac death. But she acknowledges that's not foolproof.

"I'll tell you, some families choose purposely to not disclose information about family history for fear of being disqualified from competition," Salberg says.

Maron says neither high school nor college athletic officials have shown any interest in a screening program that tells some young athletes that they can't play.

When Sudden Death Strikes Athletes

by JOE NEEL

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The sudden death of several prominent young athletes has drawn attention to the problem of silent heart disease. Studies are under way to determine who is at risk.

The problem of undetected heart disease in young athletes came to prominence in 1990 with the death of Hank Gathers, 23, then an All-American basketball star at Loyola Marymount University. He collapsed on the court during a game with the University of California, Santa Barbara, and died shortly thereafter. He had been treated for an abnormal heartbeat, but after his death, a medical examiner found that he had suffered from cardiomyopathy, an enlarged heart.

Then, the 1993 death of Boston Celtic Reggie Lewis brought new calls for more regular testing of athletes for heart disease. Lewis collapsed during the first game of the 1993 National Basketball Association playoffs with the Charlotte Hornets. Doctors diagnosed myocarditis, an uncommon disorder in which the heart muscle becomes weakened and inflamed. Infections are the usual cause. Lewis died soon after the playoffs at the age of 27 during an off-season practice session at Brandies University, outside Boston.
It's not known precisely how many athletes are at risk for sudden death from heart problems like these — or how many actually die each year. Most deaths aren't publicized because they happen in young athletes who are just beginning their high school or college sports careers.

Dr. Barry Maron, of the Minneapolis Heart Institute Foundation, established a registry of sudden deaths in young athletes. Since 1985, the registry has collected almost 1900 reports of sudden deaths in young athletes who participated in competitive sports. The most frequent cause of death was hypertrophic cardiomyopathy (HCM), a condition where the muscles of the left lower chamber of the heart thicken and enlarge.

To gather more information, Dr. Barry Maron of the Minneapolis Heart Institute Foundation, established a registry of sudden deaths in young athletes. Since 1985, the registry has collected almost 1900 reports of sudden deaths in young athletes who participated in competitive sports. The most frequent cause of death was hypertrophic cardiomyopathy (HCM), a condition where the muscles of the left lower chamber of the heart thicken and enlarge.

Here, a partial list of recent sudden deaths in young professional athletes, as reported by various media:

**Joe Kennedy, 28, Toronto Blue Jays Pitcher**
On Nov. 23, 2007, Kennedy collapsed at his in-laws’ home in Tampa shortly after going to bed early. Preliminary autopsy report says that had hypertensive heart disease, which can lead to HCM. Final report due out soon.

**Ryan Shay, 28, Top U.S. Marathon Runner**
Olympic hopeful Shay collapsed and died 5 1/2 miles into the Olympic marathon trials in New York City on Nov. 3, 2007. Shay was diagnosed with an enlarged heart at age 14. The autopsy report is still pending, awaiting more test results, according to the New York City Medical Examiner’s office.

**Damien Nash, 24, Denver Broncos Running Back**
Nash died on Feb. 24, 2007 of undetermined natural causes believed to be “of cardiac origin,” according to the St. Louis (Mo.) County Medical Examiner’s office. He collapsed shortly after playing in a benefit game for the Darris Nash Find a Heart Foundation, a charity named for his older brother that raises money for heart transplant research. Darris Nash received a new heart after suffering dilated cardiomyopathy, which usually is not genetic.

**Jason Collier, 28, Atlanta Hawks Center**
Collier, a 7-foot, 260-pound football player, had an “enlarged and abnormal” heart, according to the Georgia chief medical examiner, Kris Sperry, who ruled that Collier died of a sudden cardiac rhythm disturbance. Sperry said that Collier, who died Oct. 15, 2005, had passed the pre-season physical, though electrocardiograms (EKGs) administered to Collier in 2003 and 2005 showed “some indication of electrical abnormalities.” Sperry said he found no evidence Collier had ever been told he had the abnormal EKGs.

**Thomas Herrion, 23, San Francisco 49ers Offensive Lineman**
Herrion collapsed in the locker room minutes after a preseason game in Denver on Aug. 20, 2005. He was pronounced dead an hour later. An autopsy found that his right coronary artery was nearly blocked. The sports network ESPN later asked four cardiologists to examine the autopsy report and each concluded that Herrion had HCM.

**Sergei Zholtok, 31, NHL Player**
Zholtok was playing in a game in Belarus during the National Hockey League lockout that year. He left the Nov. 3, 2004 game and collapsed on the way to the locker room, dying a few minutes later. An autopsy found that he died of heart failure, which sometimes accompanies HCM. Zholtok had previously been diagnosed with an irregular heartbeat.

**Miklos Feher, 24, Hungarian Soccer Player**
Feher collapsed during a Jan. 25, 2004 game in Portugal. News reports citing Portuguese authorities said he died from an abnormal heart rhythm triggered by HCM. One report said Feher had undergone extensive tests a month prior, including an EKG, and that nothing unusual was found.

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