

Screening for heart disorders in competitive athletes would save lives

July 4 2008

Athletes who take part in competitive sport should be screened for potentially fatal heart problems before they compete, according to a study published on BMJ.com today.

The findings show that a pre-participation screening programme, which involves checking the activity of the heart during exercise, would detect more athletes at risk of sudden cardiac death and save lives, say the authors.

One young competitive athlete dies every three days from an unrecognised cardiovascular disorder in the United States alone.

In the majority of cases the athletes appear healthy and there is no previous clinical sign of heart problems. The clinical usefulness of pre-screening programmes to identify people at high risk has been hotly debated. Whether or not to include an electrocardiogram (ECG) as part of pre-screening has been particularly controversial because of concerns over cost-effectiveness and the number of false-positive test results.

In America and Europe authorities have recommended a pre-participation evaluation which includes taking a detailed patient and family history as well as a physical examination.

However, in Italy for the past 25 years, athletes wishing to enter competitive sport have also had to have two ECGs (a test to measure the electrical activity of the heart), one at rest and one while exercising.

Researchers from the University of Florence set out to evaluate the clinical usefulness of this programme.

Dr Francesco Sofi and colleagues analysed data from 30 065 athletes who underwent a complete pre-participation cardiovascular evaluation at the Institute of Sports Medicine in Florence during a five year period (2002-2006).

During the resting ECG they found that 1.2% (348) of participants had distinctly abnormal test results. However, the results from the ECGs taken during exercise found that 4.9% of participants (1459) had some form of heart abnormality. So a significant number of heart problems were only evident during exercise.

The age of people with problems found only during the exercise ECG, was also significantly higher (30.9 years old compared to 24.9 years old) than those who had normal test results.

Importantly, of the 159 people disqualified from sport for identified heart problems, only six would have been picked up through history and physical examination alone, meaning nineteen in twenty would have been missed. Eight in ten (79.2%) would have been missed if they had only had a resting ECG.

In an accompanying editorial Professor Jonathan Drezner from the University of Washington says "adding electrocardiography to the screening process will detect more athletes with silent cardiovascular disorders at risk of sudden death."

Both Drezner and Sofi call for ECGs to be added to screening programmes for all people taking part in competitive sports, and emphasise that it is particularly important for people who are middle aged or older.

Source: British Medical Journal

Citation: Screening for heart disorders in competitive athletes would save lives (2008, July 4)
retrieved 19 April 2024 from

<https://medicalxpress.com/news/2008-07-screening-heart-disorders-competitive-athletes.html>

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