Heart rhythm disorders: A cardiologist shares five things it's important to know

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Heart rhythm disorders are one of the most common cardiac problems. Arrhythmias cause the heart to beat too fast, too slow, or irregularly. People can be born with them or develop them during their lives. Elijah

Behr, M.D., a cardiologist at Mayo Clinic Healthcare in London, shares five developments in the prevention, detection and treatment of arrhythmias.

What cardiologists now know about arrhythmias and COVID-19

"We know that COVID-19 appears to worsen arrhythmias in patients who have them, and that it may provoke arrhythmia. For patients who have a risk of arrhythmia, prevention is the best treatment, and that's vaccination," Dr. Behr says. "The more unwell a patient is with COVID, the more likely they are to develop arrhythmias."

Atrial fibrillation, an irregular heartbeat that can increase the risk of stroke and heart failure, is common with severe COVID-19, Dr. Behr says. A subgroup will suffer ventricular arrhythmias, and those are more immediately life-threatening, he adds.

Heart rhythm disorder treatment during COVID is similar to treatment under normal circumstances, but health care providers also will try to treat the underlying infection and its other complications, Dr. Behr says. Patients who have arrhythmias with COVID may need cardiac rehabilitation or other ongoing care.

"It depends how persistent and severe the damage to the heart muscle," Dr. Behr says. "If it is managed, simple rehabilitation should be sufficient. If there is permanent damage, they may need treatment to prevent future problems or underlying heart failure. They might need medication and/or implantable heart rhythm devices."

How genetic testing has advanced to predict and prevent sudden cardiac death

"Genetic testing has reached quite an advanced stage for groups at high risk of arrhythmias, such as people with a family history of heart rhythm disorders or unexpected sudden cardiac deaths," Dr. Behr says. "Where genetic testing is now moving is to identify risk in a number of different ways."

For example, one area of active research focuses on identifying genetic risk of sudden cardiac death in people from acquired rather than genetic causes, such as people with coronary artery problems, Dr. Behr says. Researchers are also studying whether it is possible to predict risk of sudden cardiac death in the general population, he adds.

"There are no data currently to support doing predictive genetic testing for sudden cardiac death risk in the general population, so the people we are focusing on now are those where we know there is a family history of genetic heart problems or there is an unexpected sudden cardiac death in a family that, particularly in young people, is more likely to have a genetic basis," Dr. Behr says.

Genetic testing would be performed with clinical heart tests and provided with genetic counseling; it would then be determined if preventive steps should be taken, such as medications or implantable devices to regulate heart rhythm, Dr. Behr says.

Strides have been made to help athletes with heart rhythm disorders stay in the game

"It depends on the condition and its severity and whether the person has had symptoms or consequences of it already," Dr. Behr says. "There will be athletes who have suffered palpitations caused by non-life-threatening heart rhythm problems such as supraventricular tachycardia, or SVT, an abnormally fast heartbeat. These are often very amenable to 'curative'

treatments such as ablation therapy, where a minimally invasive approach is used to block abnormal heart signals. They can then return to normal activities."

That also can be the case with people who have been found to have extra pathways in the heart, known as Wolff-Parkinson-White syndrome, Dr. Behr says.

Continuing sports can be more difficult in people with long-standing heart muscle problems or electrical problems in the heart. Treatment requires a personalized approach that depends on many factors, Dr. Behr says.

"For example, defibrillators used to protect patients at risk of life-threatening heart problems are not usually considered conducive to continuing elite sports," particularly contact sports such as rugby and American football, he says. There are many older patients with pacemakers who are still playing golf, but it may be questionable at the elite level, due to the stress golf swings place on medical hardware in the body, Dr. Behr says.

"In the end, it is the athlete's decision," he says. "There has been a lot of progress made, especially by Mayo Clinic, in studying athletes who have these conditions and making us realize that more can return to sports than we thought possible, because the risks may be not quite as high as we thought."

Arrhythmia symptoms to watch for

Red flags include a family history of arrhythmias or premature and unexpected sudden cardiac deaths. Symptoms to watch for include unexplained blackouts; for example, faints not attributed to a drop in blood pressure or shock from seeing blood, Dr. Behr says.

"When there is a very sudden loss of consciousness, that's a quite serious symptom to have and requires urgent evaluation at a hospital," he says.

Heart palpitations are often benign, but if there is discomfort and/or a family history of heart problems, they should be evaluated, and if palpitations were brought on by exercise or you are feeling lightheaded, emergency care should be sought, Dr. Behr says.

"In general, if people have worrying symptoms such as palpitations that do not cause more serious side effects, those still deserve to be checked out," he says. "That can involve simple cardiac tests such as an electrocardiogram or Holter monitor to record heart rhythm."

Many heart rhythm problems are associated with other heart problems, and a healthy diet; controlling blood pressure, cholesterol and weight; and avoiding smoking and overconsumption of alcohol can reduce risk, Dr. Behr says.

The potential of pharmacogenomics to prevent drug-induced arrhythmias

Pharmacogenomics allow physicians to use information about a patient's genetics to choose medications more likely to be effective and less likely to cause side effects.

"Pharmacogenomics is a promising and rapidly developing area," he says, adding that research is underway to further develop the use of pharmacogenomics in cardiology.

More than 200 medications regularly used across the world, including antibiotics, mental health drugs and heart-related drugs, can cause heart rhythm problems such as long QT syndrome, particularly in people

genetically predisposed to arrhythmias, Dr. Behr says.

Provided by Mayo Clinic

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