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Opinion

Arrhythmia Causes and Risk Factors

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INTRODUCTION

An irregular heartbeat is known as arrhythmia (uh-RITH-me-uh). When the electrical signals that coordinate the heart's beats don't operate correctly, heart rhythm abnormalities (heart arrhythmias) arise. The heart beats excessively quickly (tachycardia), too slowly (bradycardia), or irregularly as a result of the incorrect signaling.

Heart arrhythmias can cause a fluttering or racing sensation in the chest, although they are usually harmless. Some cardiac rhythms, on the other hand, can create uncomfortable — and even life-threatening — symptoms.

It is, nevertheless, occasionally natural for a person's heart rate to be rapid or sluggish. For example, during activity, the heart rate may increase, whereas during sleep, it may decrease.

To manage or eradicate rapid, slow, or irregular heartbeats, medicines, catheter procedures, implanted devices, or surgery may be used.

A healthy heart activity can help avoid cardiac injury, which can result in arrhythmias.

Sudden heartbeats are abnormal heartbeats that occurs when the heart extra heartbeats, known as premature heartbeats, occur one at a time, sometimes in patterns that alternate with the normal heartbeat. The additional heartbeats might occur from the top chamber (premature atrial contractions) or the bottom chamber (ventricular fibrillation) (premature ventricular contractions).

There are four chambers in the heart: two upper chambers (atria) and two lower chambers (ventricles).

A natural pacemaker (the sinus node) in the right upper chamber regulates the heart's rhythm (atrium). Each heartbeat is generally started by electrical impulses sent by the sinus node. The atria provide electrical impulses to the ventricles, causing the heart muscles to contract and pump blood into them.

The impulses then slow down when they reach the AV node, which is a cluster of cells. The ventricles might fill with blood because of the minor delay. When the chambers contract, blood is pumped to the lungs or the rest of the body reach the ventricles.

This cardiac signalling mechanism normally runs smoothly in a healthy heart, resulting in a normal resting heart rate of 60 to 100 beats per minute.

A multitude of reasons can produce an irregular heartbeat arrhythmia.

There are several types of arrhythmia

Atrial fibrillation: This is the irregular beating of the atrial chambers, and nearly always involves tachycardia. Atrial fibrillation (A-fib) is common and mainly develops in adults over 65 years of age.

Atrial flutter: While fibrillation causes many random and different quivers in the atrium, atrial flutter is usually from one area in the atrium that is not conducting properly. This produces a consistent pattern in the abnormal heart conduction.

Supraventricular tachycardia: The condition known as supraventricular tachycardia (SVT) refers to a rapid but rhythmically regular heartbeat. An individual can experience a burst of accelerated heartbeats that can last from a few seconds to a few hours.

Ventricular tachycardia: This condition refers to abnormal electrical impulses that start in the ventricles and cause an abnormally fast heartbeat. This often happens if the heart has a scar from a previous heart attack.

Ventricular fibrillation: This is an irregular heart rhythm consisting of rapid, uncoordinated, and fluttering contractions of the ventricles. The ventricles do not pump blood but quiver instead.

Long QT syndrome: This syndrome refers to a heart rhythm disorder that sometimes causes rapid, uncoordinated heart beats. This can result in fainting, which may be life threatening.

Symptoms

- Heart arrhythmias may be undetected for a long time. When a doctor examines you for another reason, he or she may discover your erratic heartbeat.
- Arrhythmias can cause a variety of indications and symptoms, including:
- There's a quiver in my chest.
- A pounding heart (tachycardia)
- A heartbeat that is sluggish (bradycardia)

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- Pain in the chest
- Breathing problems
- Other signs and symptoms might include:
- Anxiety\Fatigue
- Loss of coordination or drowsiness
- Sweating
- Sinus tachycardia (fainting) or near-fainting

Factors that are at risk

- Coronary heart disease, other cardiac conditions, and past heart surgery are all factors to consider. Almost any type of arrhythmia can be caused by narrowed heart arteries, a heart attack, faulty heart valves, previous heart surgery, heart failure, cardiomyopathy, and other heart problems,
- Blood pressure that is too high. Coronary artery disease is more likely to occur as a result of this disorder. It may also stiffen and thicken the walls of the left lower heart chamber (left ventricle), altering how electrical signals pass through the heart.
- Congenital heart disease (CHD) is a kind of congenital cardiac defect. The rhythm of the heart might be affected if you are born with a cardiac problem.
- Thyroid illness is a condition affecting the thyroid gland. Irregular heartbeats can be caused by an overactive or underactive thyroid gland.
- Obstructive sleep apnea is a kind of obstructive sleep apnea. During sleep, this syndrome produces breathing pauses. It can cause bradycardia (slow heartbeat) and irregular heartbeats, such as atrial fibrillation.
- Electrolyte imbalance is an abnormal concentration of body's electrolytes. Electrolytes are substances in the blood that include potassium, sodium, and chloride.

CONCLUSION

Caffeine, alcohol, and other drugs that lead to irregular heart rhythm and other cardiac issues should be limited or avoided, exercising on a regular basis smoking cessation and avoidance of second-hand smoke.

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CONFLICT OF INTEREST

There is no conflict disclosed in this article.