Therapy of Cardiac Arrhythmia

Melvin Scheinman*

Department of Cardiac Electrophysiology, University of California-San Francisco, San Francisco, USA

Accepted on 04 June, 2021

Editorial

The heart is made up of muscle tissue and functions as a pump. The heart, like any muscle, requires energy and oxygen to function. The electrical conduction system that governs the contraction of the heart's different chambers regulates the heart's pumping motion. A cardiac arrhythmia is a heart rhythm that is abnormal. Abnormal electrical signals sent via the heart muscle can cause the heart to beat too rapidly (tachycardia), too slowly (bradycardia), or irregularly in an arrhythmia. Some arrhythmias can cause difficulties with heart chamber contractions by:

Because of an aberrant electrical signal, the heart pumps too rapidly or too slowly, not allowing the lower chambers (ventricles) to fill with adequate blood.

The top chambers (atria) are unable to function effectively.

A disturbance to the heart's rhythms can cause a wide range of symptoms that may include:

Palpitations

Fainting spells

Fatigue

Shortness of breath

Chest discomfort

Treatments for Cardiac Arrhythmias

According to Thomas Tadros, MD, "certain heart rhythm disorders, such as ventricular tachycardia and ventricular fibrillation, can induce rapid death." "Atrial fibrillation and atrial flutter, among other rhythm disorders, can put patients at risk for stroke or heart failure. Supraventricular tachycardia isn't dangerous.

Dr. Tadros explains that treating an arrhythmia is critical because the problem can deteriorate over time as the cardiac muscles grow strained and weak, making it more difficult for the heart to operate properly.The Cardiac Arrhythmia Service treats patients with abnormal heart rhythms with a variety of cutting-edge procedures and techniques.

Medications

Medications are frequently used as the first line of treatment for numerous cardiac rhythm problems. Antiarrhythmics allow doctors to restore the heart's normal rhythm and so stabilise the heartbeat and prevent significant consequences.

Anticoagulant drugs (blood thinners) are used to prevent blood clots from forming as a result of atrial fibrillation, which can lead to stroke.

Catheter ablation

Catheter ablation is a good alternative for people who have heart rhythm problems that aren't responding well to pharmaceutical treatment. This non-invasive technique entails passing a tiny tube through the veins and into the heart, where electrodes are used to destroy the arrhythmia-causing cardiac cells. Dr. Tadros explains that catheter ablation is used to either permanently cure an arrhythmia or, if that isn't possible, to make them less frequent, slower, and more tolerable.

In the United States, Brigham and Women's Hospital is one of three hospitals using an investigational needle catheter to treat patients with ventricular tachycardia who have failed traditional ablation procedures and drugs.

Electrical cardioversion

Electrical cardioversion is a non-surgical method in which an electrical current is passed through the chest wall to "reset" the heartbeat to a normal rhythm. It can be used to treat a variety of irregular cardiac rhythms, but it's most typically used to treat long-term arrhythmias like atrial fibrillation.

Electrical cardioversion is useful for treating other abnormal heart rhythms, such as atrial flutter. It can also be used to treat certain kinds of supraventricular tachycardias and ventricular tachycardia.

Surgical procedures

Implantable devices can give continuous electrical therapy to individuals with persistent heart rhythm abnormalities, preventing life-threatening arrhythmias.

Dr. Tadros explains, "We normally undertake surgery for arrhythmias when all other options, including minimally invasive surgical treatments, have failed."

Within the Cardiac Arrhythmia Service, our experienced physicians in cardiac electrophysiology perform more than 3,000 procedures a year, including the implantation of the following devices:

Implantable Cardioverter Defibrillator (ICD)

Pacemaker

Cardiac Resynchronization Therapy (CRT)

Brigham and Women's Hospital has been at the forefront of clinical and research investigations for novel mechanical and circulatory assist devices for nearly a century, including HeartMate 3, which was recently approved by the FDA based on results from Brigham investigators' innovative MOMENTUM 3 trial.

Citation: *Scheinman M. Therapy of Cardiac Arrhythmia. Allied J Med Res. 2021;5(S3):12-13*

***Correspondence to**

Melvin Scheinman

Department of Cardiac Electrophysiology,

University of California-San Francisco, San Francisco, USA

E-mail: scheinman@ucsf.edu