

Cardiac arrest is the sudden loss of blood flow throughout the body resulting from the heart not being able to pump blood efficiently. It is a rapidly fatal medical emergency requiring immediate intervention with cardiopulmonary resuscitation (CPR) until further treatment can be provided. Cardiac arrest results in rapid loss of consciousness and breathing may be abnormal or absent. While cardiac arrest may be caused by heart attack or heart failure, these are not the same, and in 15 to 25% of cases, there is a non-cardiac cause. Some individuals may experience chest pain, shortness of breath, or nausea immediately before entering cardiac arrest. Additionally, an elevated heart rate and feelings of light-headedness may occur before the episode. If not intervened by CPR and defibrillation, cardiac arrest typically leads to death within minutes.

The most common cause of cardiac arrest is an underlying heart problem like coronary artery disease which decreases the amount of oxygenated blood supplying the heart muscle. This, in turn, damages the structure of the muscle, which can alter its function. These changes can over time place the patient's heart in ventricular fibrillation (V-fib) which most commonly precedes cardiac arrest. Less common causes include major blood loss, lack of oxygen, very low potassium, heart failure, inherited heart arrhythmias, and intense physical exercise. Cardiac arrest is diagnosed by the inability to find a pulse.

In the present book, fifteen typical literatures about cardiac arrest published in international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original research on cardiac arrest. We hope this book can demonstrate advances in cardiac arrest as well as give references to the researchers, students, and other related people.¹

¹ https://en.wikipedia.org/wiki/Cardiac_arrest