

Sudden Cardiac Arrest

This topic has been a serious concern in the football fraternity especially because of the recent cases we have seen with the case of Fabrice Muamba (23 years) being the most popular. Sudden Cardiac Arrest (SCA) occurs when the electric system of the heart malfunctions & suddenly becomes very irregular. The heart beats dangerously fast. The ventricles may flutter or quiver (Ventricular fibrillation) and blood is not delivered to the body. In the first few minutes, the greatest concern is that blood flow to the brain will be reduced so drastically that a person will lose consciousness. Death follows unless emergency treatment is started immediately.

Before I go further it is actually fundamental that I clearly distinguish SCA from Heart Attack (HA) which is mistakenly said to be similar. HA occurs when there is blockage in one or more of the arteries that feeds the heart, preventing the heart from receiving enough oxygenated blood. If the oxygen in the blood cannot reach the heart muscle, the heart becomes damaged. It is more common in people who are inactive and living a sedentary lifestyle, it rarely happens in Elite athletes.

A sudden fall of a player without any physical contact with another player should always be suspected as SCA until proven otherwise. This is a medical emergency and should be treated as such. The medical team needs to rush into the field and immediately commence emergency treatment within 2-3 minutes of the incident.

Emergency treatment involves Cardiopulmonary Resuscitation (CPR) and Defibrillation. CPR is a manual technique using repetitive pressing to the chest and breathing into the person's airways that keeps enough oxygen and blood flowing to the brain. Until the normal heart rhythm is restored with an electric shock to the chest, a procedure called defibrillation. The most advisable device to use is the Automated External Defibrillator (AED). This device must always be there on the side of the field in all football activities, both training and matches. It must also be noted however that any person can perform CPR e.g. referee, Coach or a fellow player, it doesn't need to be necessarily a medical personnel.

SCA can present with warning symptoms such as racing heartbeat, feeling dizzy however more often it occurs without any warning symptoms. The cardinal symptoms are chest pain; discomfort in one or both arms or in the back, neck or jaw and unexplained shortness of breath. However the signs that the medical team gets when doing a quick examination are loss of consciousness; absent pulse (carotid) and no breathing.

The most common cause of SCA in athletes is Congenital or genetic abnormal heart arrhythmias e.g. Ion channelopathies which cause irregularities in the heart electrical impulse. The other causes are hypertrophic cardiomyopathy (Ventricular fibrillation being the most common); pulmonary embolism; asthma etc.

It is also important to note the risk factors which are previous heart attack or SCA; Coronary artery disease; Recreational drug abuse; Abuse of supplements with high caffeine content; Smoking; Hypertension; Low potassium or magnesium (poor nutrition); Gender (Male) and family history of heart disease, high cholesterol or SCA.

It is imperative to note that rather than the activity being the cause of SCA, it is actually the presence of heart abnormality, coupled with the added strain on the body during a burst of extreme exertion,

intense training programmes or exercise in extreme heat, humidity or altitude, that increases the risk of SCA in a seemingly healthy individual.