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Electrocardiograph Machines and it Uses of Cardiac Monitors

Dante Alighieri*

Department of Cardiology, University of Sydney, Australia

INTRODUCTION

An electrocardiogram a record of the electrical activity of the heart is produced through electrocardiography. Using electrodes that are positioned on the skin, it is an electrogram of the heart, which is a graph of voltage versus time of the electrical activity of the heart. During each cardiac cycle (heartbeat), these electrodes detect the minute electrical changes caused by cardiac muscle depolarization and repolarization. Numerous cardiac abnormalities result in changes in the normal ECG pattern, such as irregular heart rhythms like atrial fibrillation and ventricular tachycardia, inadequate blood flow in the coronary arteries like myocardial ischemia and myocardial infarction and electrolyte imbalances like hypokalemia and hyperkalemia.

DESCRIPTION

Customarily, "ECG" as a rule implies a 12-lead ECG brought while resting as examined beneath. A Holter monitor, for example, can record the electrical activity of the heart, and some smartwatch models can also record an electrocardiogram (ECG). With other devices, ECG signals can be recorded in other settings. 10 electrodes are positioned on the patient's limbs and chest surface in a conventional 12-lead ECG. The heart's electrical potential is then measured from 12 different angles and its overall magnitude is recorded over time. At every moment during the cardiac cycle, this method records the overall magnitude and direction of the heart's electrical depolarization. An electrocardiogram (ECG) consists of three main parts: The P wave, which addresses depolarization of the atria; the QRS complex, which symbolizes ventricle depolarization; and the T wave, which is the ventricle's repolarization. A healthy heart depolarizes in a sequential manner throughout each heartbeat, beginning with pacemaker cells in the sinoatrial node and spreading throughout the atrium. It then moves through the atrioventricular node and into the bundle of his and the Purkinje fibers, which then spread to the left throughout the ventricles. The characteristic ECG tracing is the result of this orderly pattern of depolarization. An electrocardiogram (ECG) provides a skilled clinician with a wealth of information about the heart's structure and electrical conduction system. An electrocardiogram (ECG) can be used to check a variety of things, including the rate and rhythm of the heartbeat, the size and position of the heart's chambers, any damage to the heart's muscle cells or conduction system, the effects of heart medications, and the operation of pacemakers that have been inserted. The overall objective of an electrocardiogram (ECG) is to learn more about how the heart's electrical system works. Clinical purposes for this data are changed and frequently should be joined with information on the design of the heart and actual assessment signs to be deciphered.

CONCLUSION

A few signs for playing out an ECG incorporate the accompanying: A heart attack, such as a ST Elevation Myocardial Infarction (STEMI) or Non-ST Elevation Myocardial Infarction (NSTEMI), or chest pain arrhythmias, including new-onset palpitations or monitoring of previously established cardiac arrhythmias, as well as symptoms like shortness of breath, murmurs, fainting, seizures, and funny turns. Prescription observing (e.g., drug-prompted QT prolongation, Digoxin harmfulness) and the executives of excess. Any anesthesia-related perioperative monitoring. Assessment prior to, during, and after the procedure are all included. Clinical cardiac electrophysiology, in which a catheter is inserted through the femoral vein and can have several electrodes along its length to record the direction of electrical activity from within the heart.

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CONFLICT OF INTEREST

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Corresponding author Dante Alighieri, Department of Cardiology, University of Sydney, Australia, E-mail: Alighieri@gmail.com

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