Flow of Blood

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Blood Flow Through the Heart

The blood flow is a complex process that is predetermined by the complicated structure of the body. The heart Two linked chambers make up the left side of the heart. The left atrium and left ventricle are these chambers. Although it shares a structure with the left side of the heart, the right side is not physically related to it. The pulmonary veins carry the oxygenated blood to the left atrium of the heart. Blood enters the ventricle through the left atrioventricular valve. The two-stage procedure ensures that 70% of the blood flows while the heart is relaxed and the remaining 30% flows when the heart contracts (Alters & Alters, 2005). Aorta is the blood flow's next direction. The semilunar valve that divides the aorta from the ventricle stops the backflow as the outflow happens.

Electrocardiogram

Electrocardiogram is a reflection of the electrical activity of the heart. This procedure is quite simple, painless and aimed to monitor the heart beating. Specifically, the abnormal heart rhythms are to be identified and help to diagnose the heart diseases associated with arrhythmia (American Heart Association, 2022). The condition implies the changes in the sequencing of the heart impulses and can make the heart rates either faster of slower than a presumed norm. Such conditions are entitled tachycardia and bradycardia. All in all, ECG is a very helpful tool for the cardiologists as it ensures the clear understanding of any failures in the heart rhythms on different stages.

Heart Beating

The electrical activity of the heart is reflected in the electrocardiogram. This easy, painless treatment is intended to monitor the heart's beating. In particular, the identification of

aberrant heart rhythms will aid in the diagnosis of heart illnesses linked to arrhythmia (American Heart Association, 2022). The condition means that the heart's impulses will no longer fire in the same order, and this could cause the heart rate to deviate from what is thought to be normal. Tachycardia and bradycardia are the names for these conditions. Overall, ECG is a highly useful tool for cardiologists since it ensures a thorough knowledge of any heart rhythm failures at various stages.

Heart Electricity

The sinus node is a unique tissue that produces the heart's electrical messages. Situated in the proper atria, it consistently produces the electric signal and ensures the subsequent contraction of the heart (American Heart Association, 2022). These signals serve as the ECG's key. Several numbers of electrodes can be used during such a treatment. Two electrodes are utilized quite frequently ("Basic Electric Staff...", n.d.). The 10-electrode 2-lead ECG, which is common nowadays, is dependent on the placement of limb leads, thoracic leads, and an RL lead (Boehm et al., 2016). The electrodes can only be positioned on the chest or around the left side of the rib cage in the other situations, though. Size can also vary because a greater area typically indicates a better contact and signal (Boehm et al., 2016). In general, various ECG types are still being created to guarantee a more practical and accurate measuring method.

The ECG's waveform is predetermined by the various signal strengths generated as the heart contracts. For instance, the SA and AV nodes' signals are too faint to be detected by the ECG ("Basic Electric Staff...", n.d.). Depolarization, on the other hand, results in the migration of the electrical charges and changes the signal strength. The signal grows as a result of atrial depolarization and waveform movement to the electrode, producing a "upward" ECG trace ("Basic Electric Staff...", n.d.). ECG deflection, on the other hand, is caused by a weak signal in

the AV node or purkinje fibers. The deflection then decreases as the signal shifts from the positive electrode to the right ventricle ("Basic Electric Staff...", n.d.). The signal is seen to rise further higher as it approaches the electrode. This happens once the septal depolarization from the endocardium to the epicardium is complete (according to Basic Electric Staff, n.d.). In an ECG, the "mountain" and "valley" represent the processes of repolarization and depolarization, respectively.

Cardiac Infarction

The term "cardiac infarction" refers to a disruption in the blood supply to the heart. This condition is brought on by the obstruction of the muscles, which prevents the heart from receiving enough oxygen. The rate at which the heart beats becomes a crucial aspect contributing to any potential issues. Abnormal rates, interrupted pathways, taking over by the other heart side are the main difficulty of the heart system operating ("Basic Electric Staff…", n.d.). The cardiac infraction can be avoided by carefully controlling the heart's electrical system.

Conduction Problems Treatment

The causes of the problem must be addressed for arrhythmia to be effectively treated. As a result, many cardiac issues may be treated with drugs or surgery. The complex factors that must be monitored and corrected to ensure normal heart function include a delay in electrical signals, correspondence of the heart's particular part's pacemaking, changes in blood flow, stiffening of the heart tissue, exertion, strain, stress, fluids, hormones, and electrolyte balance (American Heart Association, 2022). The particular recommendations can change depending on the situation and other pertinent circumstances.

References

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