



Ambulatory Electrocardiography in Atrial Fibrillation with Extended RR Intervals

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DESCRIPTION

The prevalence of Atrial Fibrillation (AF), a frequent clinical arrhythmia, rises with age. According to studies, AF affects 1% of people over the age of 60 and up to 10% of people over the age of 75. Previous research has shown that the start of AF, which has symptoms such as irritability, palpitations, dizziness, shortness of breath, and chest tightness, is linked to ageing and underlying diseases. Additionally, persistent AF compromises patients' heart health, raising their risk of thromboembolism and stroke and, in extreme circumstances, causing syncope and unexpected death. According to the Framingham study, persons with atrial fibrillation have a 1.5-1.9 fold greater mortality rate than those without the condition. Ambulatory Electrocardiography (ECG), which continually captures electrocardiographic changes in patients at rest or during exercise for a prolonged length of time, is the most popular test method in clinical diagnosis. It may help traditional ECG testing more accurately identify risk factors like atrial fibrillation and is helpful in the diagnosis of long RR intervals. The time between two R waves in the ECG is known as the long RR interval. The normal RR interval is between 0.6 and 1.0 seconds, with tachycardia being defined as less than 0.6 seconds and bradycardia being defined as more than 1.0 seconds. Atrial fibrillation frequently causes a protracted R-R interval, which is a clinical electrocardiographic condition. In the past, it was typically thought to be a symptom of atrial fibrillation in addition to second- or third-degree atrioventricular block. Later research, however, cast doubt on the earlier diagnosis as many patients with atrioventricular block did not have a second or high atrioventricular block after resetting to sinus tachycardia. In patients with atrial fibrillation, irregular ventricular beats can seriously impair the heart's ability to expel blood. Regular ventricular beats can endanger patients' lives by interfering with ventricular hemodynamics, encouraging intraventricular wall thrombosis, raising thromboembolism risks, and increasing the frequency of prolonged RR intervals, which in some situations can result in syncope and cardiac arrest. The DMS300-4A ambulatory electrocardiograph was the tool employed,

and it continuously recorded the electrocardiograms of each subject. The patients' everyday symptoms and discomforts were meticulously documented. Computerized analysis and processing of the data led to the creation of an ambulatory ECG, which was then recorded. The DMS300-4A ambulatory electrocardiograph was the tool employed, and it continuously recorded the electrocardiograms of each subject. The patient's everyday symptoms and discomforts were meticulously documented. Computerized analysis and processing of the data led to the creation of an ambulatory ECG, which was then recorded. During the examination and analysis, the circumstances related to the lengthy RR interval were accurately and thoroughly observed. The normal electrical stimulation of the sinoatrial node may not pass through the atria due to abnormal atrial electrical activity. This abnormal atrial electrical activity is then irregularly conveyed to the ventricles, causing irregular pacing of the ventricles. The sinus node serves as the heart's typical pacing point and is crucial to both ventricular blood ejection and regular heartbeat. The sympathetic nerve, which encourages heartbeat and raises heart rate, and the vagus nerve, which suppresses beating and lowers heart rate, both control the activity of the sinoatrial node. Ambulatory electrocardiography is used to quickly identify the causes of atrial fibrillation with long RR intervals and their frequency in patients. This enables fast diagnosis of the patient's condition and the administration of appropriate medication. Patients with atrial fibrillation who experience long RR intervals while asleep have a milder disease than those who experience long RR intervals while awake, necessitating specialized treatment. A typical electrocardiographic finding in older people with non valvular atrial fibrillation is a long R-R interval. The lengthy R-R interval is particularly common during non-sleeping hours. Sleeping time has greater ventricular rates on average, slower ventricular rates, and faster ventricular rates than awake time. Long R-R intervals may be caused by a variety of factors, including hidden conduction, physiological interference in the atrioventricular node, over speed inhibition, increased vagus nerve tension, or pathological atrioventricular block, which can be revealed by examining the dynamic electrocardiogram features of the patients.

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