

# Prognostic Value of Asymptomatic Ventricular Arrhythmia on Ambulatory ECG Monitoring in Chronic Heart Failure with Reduced Ejection Fraction

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## **BACKGROUND:**

Pump failure and sudden cardiac death are the leading causes of death in heart failure patients. Heart failure increases the risk of sudden death by 6–9 times and most cases are the result of ventricular arrhythmias (VA).

## **OBJECTIVE:**

To determine the prevalence of silent ventricular arrhythmia (frequent PVCs, infrequent PVCs or Non sustained ventricular tachycardia (NSVT)) in ambulatory heart failure with reduced ejection fraction (HFrEF) population and its relation to outcome (death, HF hospitalization and sustained ventricular tachycardia).

## **METHODS:**

The study is a prospective observational study enrolling 100 ambulatory heart failure patients with reduced ejection fraction. Full clinical assessment including 12 lead ECG, ECHO and 48 hour Holter monitoring followed by 6 months clinical reassessment were obtained. Occurrence of major cardiovascular events were considered as the composite study end point (death, HF hospitalization and sustained ventricular VT)

## **RESULTS:**

Among the 100 patients enrolled, 93% were males, mean age  $56.07 \pm 7.89$  years. 82% of them were ischemic cardiomyopathy and the remaining 18% were dilated cardiomyopathy with normal coronaries. Ventricular arrhythmia were detected in 76 patient about 49 patient developed frequent PVCs (PVCs burden  $>5\%$  or NSVT) and around 27 patient developed infrequent PVCs. The total mortality was 11 patient 7 of them frequent PVCs was noted, also 47 patient hospitalized by worsening of HF symptoms 26 of them frequent PVCs was noted. And 10 patients developed hemodynamically significant VT 8 of them frequent PVCs was noted. So, the composite end point was achieved in 68 case around 41 case of them a frequent PVCs (PVC burden  $>5\%$  or NSVT) was detected in 48 hour Holter monitoring.

## **CONCLUSION:**

According to the results from our study we can conclude that PVCs in HFrEF patients are common finding and the burden of PVCs considered a bad prognostic sign in HFrEF patients.