Usefulness of Electrocardiographic Patterns at Presentation to Predict Long-term Risk of Cardiac Death in Patients With Hypertrophic Cardiomyopathy

Study Summary

Methods: the first available ECG of each patient, when diagnosed with HCM, was accurately assessed and specific morphologic patterns were identified. Events occurring during follow-up were then retrospectively assessed including sudden cardiac Death and appropriate intervention of the ICD. By multivariate analysis, we assessed whether the association of certain ECG patterns with arrhythmic events was statistically significant. We found that a "pseudo-STEMI" pattern was an independent predictor of such events, suggesting that morphologic changes on the ECG may be an indicator of electric instability. Because the ECG is available everywhere, cheap and non-invasive, this information is easy to obtain and may help management (eg in patients with uncertain indication to an ICD).

What this means for the Patient: by Dr. Iacopo Olivoto

This is a multicenter Italian study retrospectively evaluating the role of specific ECG morphologies in predicting sudden death, in over 1,000 HCM patients. We found that indeed, certain ECG abnormalities were associated with increased risk, independent of all other classic risk factors. Of these, the most striking is a pattern in which certain lead tracings (V1 and V2) resemble acute myocardial infarction (and are thus called in the study "pseudonecrosis waves"). This pattern increased risk by 130%. I think the study is important because, in the era of MRI and genetics, it shows that an old and inexpensive technique such as the ECG, when a detailed qualitative and quantitative analyses is performed, may provide independent predictors of prognosis that might be integrated with the available score systems to improve their power.