tolian Journal of Cardiology 2017 Mar 9. Epub ahead of print (1).

Hypertrophic cardiomyopathy (HCM), a common genetic heart disease characterized by ventricular hypertrophy, impaired ventricular relaxation, and myocardial fibrosis, is significantly associated with a higher risk of fatal ventricular arrhythmic events (2). HCM is a leading cause of sudden cardiac death (SCD) in young adults (3). Current 2014 European Society of Cardiology (ESC) guidelines on the diagnosis and management of HCM recommend a prophylactic implantable cardioverter defibrillator (ICD) therapy for the primary prevention of SCD in high-risk patients based on age, unexplained syncope, family history of SCD, maximum left ventricular wall thickness (LVWT), maximum left ventricular outflow (LVOT) gradient, left atrial size, and non-sustained ventricular tachycardia (NSVT) during 24–48-h Holter monitoring at or prior to evaluation (2, 3). Other than these variables, Kang et al. (4) have recently demonstrated that the presence of a fragmented QRS complex (fQRS) on 12-lead electrocardiography (ECG) is significantly associated with a higher risk of fatal ventricular arrhythmia events (VAEs), including NSVT, VT, and SCD in patients with HCM. Similarly, in our study we observed that prolonged Tp-e interval and increased Tp-e/QTc ratio are independent predictors of VAEs in patients with HCM (1). The Tp-e interval (the interval between the peak and end of the T wave on ECG) is described as an index of total dispersion of ventricular repolarization, and a longer Tp-e interval has been found to be related to arrhythmias and mortality (5). Although the Tp-e interval is affected by the heart rate and body surface area, the Tp-e/QTc ratio is represented as a more accurate index of VR (6). Recent studies have confirmed that these simple ECG parameters, including the Tp-e interval, Tp-e/QTc ratio, and fQRS, are very useful tools for predicting adverse cardiac events (4, 5). Therefore, I believe that these parameters will be used to a larger extent in clinical practice in the future.

In conclusion, if these findings are confirmed via further and larger prospective trials, these easily available ECG parameters such as the Tp-e interval, Tp-e/QTc ratio, and fQRS could be included in the HCM Risk-SCD Formula to more precisely assess the risk stratification in patients with HCM who are eligible for primary prophylactic ICD.

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A 31-year-old patient without the use of warfarin and with an aortic mechanical valve

To the Editor,

Patients with metallic prosthetic heart valves have to use anticoagulants throughout their life because of avoiding prosthetic valve thrombosis. We report the case of a patient with a prosthetic aortic valve without any event to date despite not using warfarin for 31 years. A 53-year-old man who underwent aortic valve replacement (AVR) with a mechanical valve (Medtronic,Inc., Minneapolis, Minesota) due to aortic valve disease 31 years ago was admitted to the cardiology department with complaints of chest pain and tiredness. In the examinations and anamneses, it was determined that the patient was followed up with acetylsalicylic acid and dipyridamole treatment without the administration of warfarin after the valve replacement. He underwent AVR in 1985 because of severe aortic stenosis. He was recommended warfarin, but he had no anticoagulation since then.

His blood pressure was 125/85 mm Hg; his heart rate was regular at 90 beats/min. The baseline international normalized ratio was 1.1. The findings of his liver, thyroid, and kidney function tests were normal. His medications at home included acetylsalicylic acid 300 mg once a day and dipyridamole 50 mg QD.

Transthoracic and transesophageal echocardiography revealed a non-functional metallic aortic valve with a gradient of 60/80 mm Hg. Fluoroscopy showed minimal motion of the aortic valve prosthesis.

The patient primarily underwent the operation. Cardiac arrest after cross-clamp was observed in the patient who entered

the pump with aorto-bicaval cannulation. After the aortotomy, a pannus-organized thrombus was seen on the mechanical valve. A Medtronic–Pivot supra-annular mechanical valve (number 22) was implanted with individual pleated sutures instead of an old valve. The postoperative clinical course was uneventful. The patient, whose operation was uneventful, was discharged on the 4th postoperative day with the administration of warfarin.

Valve thrombosis and systemic embolism are lethal complications after the use of mechanical heart valves, and to prevent these, anticoagulation therapy is necessary and vital; however, it can also cause fatal bleeding.

Thromboembolism and bleeding with the use of anticoagulants account for 75% of all mechanical valve complications. These complications most frequently occur during the first 6 months after surgery (1). A prosthetic aortic valve is associated with much better survival rates without embolic episodes than a mitral valve (2).

In their study, Andersen et al. (2) reported that after 10 years, there was a 41% incidence of thromboembolism and 17% mortality in 43 patients who discontinued anticoagulation mechanical aortic valve replacement and were followed for a mean period of 7.2 years without anticoagulation.

In the literature, there are some cases without anticoagulation for over 30 years without significant embolic events; such cases have been reviewed in the study by Salmane et al. (3). They have also reported on the longest survey of 37 years (3). Aman (4) has reported another case that has survived for 33 years without anticoagulation.

How these valves were protected for so long remains unknown. Gül et al. (5) first demonstrated a genetic mutation in the coagulation cascade, which can explain long-term survival without anticoagulation.

Although the use of warfarin is an absolute requirement in the current treatment after mechanical valve implantation, the patient has been able to live for 31 years without using warfarin. The use of acetylsalicylic acid may have contributed to the favorable outcome in our patient.

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DOI:10.14744/AnatolJCardiol.2017.7853

Issues related to reliability of HRV analysis and effect of spontaneous saliva swallowing on HRV

To the Editor,

The aim of this letter is to emphasize some of the most important factors that may affect the reliability of heart rate variability (HRV) analysis and to share the initial findings of our recent study on the effects of spontaneous saliva swallowing on HRV and the reliability of HRV analysis.

The reliability of HRV analysis is controversial (1). Despite this, more than 28,000 papers related to HRV have been published in SCI. Some of these have been written on the methodology and usage fields of HRV analyses, while some have been examined possible clinical applications. Comprehensive studies have shown that diminished HRV causes mortality and morbidity, and these studies have increased the clinical importance of HRV analysis. However, a significant number of studies have not considered the factors that could affect the reliability of their studies.

It has been shown that short-term HRV changes with many factors such as respiratory parameters, speech, prandial state, surrounding sounds, postural stress or physical activities, and emotional state. The reliability of HRV analysis can be increased by various measures. Signal recording should be performed in a quiet and calm environment in the resting position, and the subjects should not be speaking. Records should be taken 3–4 h after the last meal of the subjects. It will be useful to ensure that subjects do not breathe quickly or slowly during recording; if possible, paced breathing can be used.

During our previous studies, we have observed that HRV mostly follows respiratory movements with a small phase difference (2, 3). However, in some signal regions on the taco-