OP-021

Reduction of Inappropriate ShockS BY InCreaseD Zones (RISSY-ICD) Trial
Serkan Cay1, Fatih Uçar1, Gökbel Çağırıcı2, Serkan Topaloğlu3, Dursun Aras4, First Ozcan1, Özcan Özeke1, Muhammet Çebeci2, Sinan Aydoğdu1
1Türkiye Yüksek İhtisas Hastalı, Ankara, 2Antalya Training Hospital, Antalya

Background: Inappropriate shock is frequently encountered clinical problem despite advance technologies to detect and treat the arrhythmia in most modern ICDs.

Aim: The aim is to evaluate whether simply programming the device zones can effectively increase appropriate shocks and decrease inappropriate shocks.

Methods: All-comers (n=122) with an indication for an ICD device (ICD + CRT-ICD) for primary prevention were included in the study. Two groups were formed according to programmed therapy zones. Conventional group (n=79) had 3 zones as VT1 (167-182 bpm with ATP + shock), VT2 (182-200 bpm with ATP + shock) and VF (>200 bpm with shock). Study group (n=43) had also 3 zones as VT1 (171-200 bpm with ATP + shock), VT2 (200-230 bpm with ATP and shock) and VF (>230 bpm with shock). All participants were followed-up for 6-month. The primary objectives were first episode of appropriate and inappropriate therapies.

Results: The mean age was 56±12 years with male ratio of 88% and 66% had ischemic origin, 53% had hypertension, 18% had diabetes, and 19% had atrial fibrillation. ICD was present in 80% and 20% had CRT-ICD device. The mean left ventricular EF was 26%±5. The primary objective of first episode of appropriate shock was higher in the study group compared with the conventional group (16.3% vs. 5.1%, p=0.043). The other primary objective of first episode of inappropriate shock was lower in the study group compared with the conventional group (0% vs. 8.9%, p=0.045) (Figure).

Conclusion: Increased therapy zones were related with %9 absolute reduction in first inappropriate shock.

General

OP-022

Fragmented QRS Resolution on Post-implantation Electrocardiography: A Predictor of Response to Cardiac Resynchronization Therapy
Ümit Celikyurt, Kurtuluş Karazum, Neslihan Al, Tayfun Sahin, Ayse Aygandan, Ahmet Vural, Dilek Ural
Kocaeli University, Department of Cardiology, Kocaeli

Purpose: Cardiac resynchronization therapy (CRT) is an established treatment for patients with symptomatic heart failure and a wide QRS complex. Fragmented QRS (fQRS) on a 12-lead electrocardiography (ECG) has been shown to predict cardiac events. We aimed to investigate the relationship between resolution of fQRS and response to CRT.

Methods: Sixty-seven consecutive patients (38 men, mean age 65±11) with fQRS undergoing CRT were studied. The presence of fQRS was assessed using standardized criteria. The resolution of fQRS was assessed on post-implantation ECG. Echocardiographic response to CRT was defined by a ≥15% reduction in left ventricular end-systolic volume (LVEF) and signal conduction disturbance due to myocardial ischemia, scar or fibrosis. In the literature, some of the studies showed negative correlation between left ventricular ejection fraction (LVEF) and fQRS. Current study, aimed to evaluate if there is relationship between number of fQRS derivatives and LVEF.

Results: Two hundred and seventy six (28 female and 48 male; %37 and %63 respectively) patients who had undergone CRT between August 2011-March 2012 in Cardiology section of Kocaeli University Medicine Faculty were included in the study. Age range of patients was 35 to 91. Preimplantation and postimplantation sixth month basal echocardiographic measurements were obtained and electrocardiographic findings, physical examinations and functional capacity were evaluated. Development of reverse remodelling was defined according to decrease of left ventricular end-systolic volume. Association between reverse remodelling with post-implantation fQRS interval and fragmented QRS were investigated. We have found that baseline fQRS >150 ms had %72 sensitivity and %75 specificity and the changes above 20 ms in fQRS duration have %84 sensitivity and %78 specificity for prediction of response to CRT.

Conclusion: In our study we stated that the most valuable predictive parameters for reverse remodelling after CRT were basal fQRS interval and change in post-implantation fQRS interval. Besides, we couldn't determine any relationship between presence of fragmented QRS with reverse remodelling.

Conclusions: Resolution of fQRS on post-implantation ECG could predict response to CRT.

OP-023

The Relationship between the Reverse Left Ventricular Remodelling Developing After Cardiac Resynchronisation Therapy and the Postimplantation Changes in QRS Duration and Presence of Fragmented QRS
Neslihan Özlem Al, Ahmet Vural, Umıt Yengi Celikyurt, Erhan Saracoglu, Hakan Çakmak, Tayyar Akbulut, Ender Emre, Dilek Ural
Kocaeli University, Faculty of Medicine, Department of Cardiology, Kocaeli

Background: In this study we aimed to investigate clinical and echocardiographic parameters that affects development of left ventricular reverse remodelling after cardiac resynchronisation therapy (CRT) and association between reverse remodelling and fragmented QRS.

Patients and Method: Totally seventy six (28 female and 48 male; %37and %63 respectively) patients who had undergone CRT between August 2011-March 2012 in Cardiology section of Kocaeli University Medicine Faculty were included in the study. Age range of patients was 35 to 91. Preimplantation and postimplantation sixth month basal echocardiographic measurements were obtained and electrocardiographic findings, physical examinations and functional capacity were evaluated. Development of reverse remodelling was defined according to decrease of left ventricular end-systolic volume. Association between reverse remodelling with post-implantation fQRS interval and fragmented QRS were investigated.

Results: In our study reverse remodelling developed in fifty patients (%66). Reverse remodelling group's pre-implantation mean QRS interval was 156±16 ms., whereas post-implantation QRS interval was 115±18 ms. (p=0.001). Preimplantation QRS interval was significantly wider in the reverse remodelling group respect to other group (156±16 mns., 147±16 mns.; p=0.009). In our study we stated that the most valuable predictive parameters for reverse remodelling after CRT were basal fQRS interval and change in post-implantation QRS interval. Besides, we couldn't determine any relationship between presence of fragmented QRS with reverse remodelling.

OP-024

Relationship between Left Ventricular Ejection Fraction and Number of Fragmented QRS Complex Derivations on Standard 12-Lead Electrocardiogram in Acute ST-Elevated Myocardial Infarction Patients
Erzin Yıldırım, Denizcan Karacanım, Ceyhan Türkkam, Damirbek Omova Kacam Serhan Özcan, Servet Albay, Uğur Sadyk Cecyan, Murat Uğur, Mehmet Bozbay, İzet Erdinler
Department of Cardiology, Dr. Siyami Ersek Cardiovascular Surgery Center, Istanbul

Background: Fragmented QRS (fQRS) developed by intraventricular depolarization and signal conduction disturbance due to myocardial ischemia, scar or fibrosis. In the literature, some of the studies showed negative correlation between left ventricular ejection fraction (LVEF) and fQRS. Current study, aimed to evaluate if there is relationship between number of fQRS derivatives and LVEF.

Methods: Between 2010-2012 years, 335 consecutive patients admitted to coronary care unit of our hospital with acute ST-elevated myocardial infarction (STEMI) were included in study population. Electrocardiographic and echocardiographic properties of these patients were evaluated prospectively.

Results: Two hundred and seventy six (28 female and 48 male; %37 and %63 respectively) patients who had undergone CRT between August 2011-March 2012 in Cardiology section of Kocaeli University Medicine Faculty were included in the study. Age range of patients was 35 to 91. Preimplantation and postimplantation sixth month basal echocardiographic measurements were obtained and electrocardiographic findings, physical examinations and functional capacity were evaluated. Development of reverse remodelling was defined according to decrease of left ventricular end-systolic volume. Association between reverse remodelling with post-implantation fQRS interval and fragmented QRS were investigated.

Conclusion: In our study we stated that the most valuable predictive parameters for reverse remodelling after CRT were basal fQRS interval and change in post-implantation QRS interval. Besides, we couldn't determine any relationship between presence of fragmented QRS with reverse remodelling.