577 The pattern of right ventricular function recovery after acute myocardial infarction, as assessed by serial electrocardiographic follow-up. The GISSI-3 Echo Substudy.


Background: The prognostic importance of right ventricular (RV) function in patients (pts) with acute myocardial infarction (AMI) is still controversial. Moreover, the pattern of recovery in RV function determined by a serial electrocardiographic follow-up in pts with low risk AMI has not been studied yet.

Aim: To assess the pattern of RV function change and its correlations with left ventricular ejection fraction (LVEF) at baseline and during follow-up in pts with low-risk AMI. Furthermore, to determine if changes in RV function are different in pts with low, as opposed to pts with preserved LVEF.

METHODS: We studied a group of 592 pts (493 men, 60.6 ± 11.8 years) from the GISSI-3 Echo Substudy, who survived 6 months after AMI, in whom complete and accurate echocardiographic follow-up data were available. Each patient had 4 echo studies performed at 24-48 hours from admission (S1), at discharge (S2), at 6 weeks (S3), and at 6 months (S4), which were analyzed in the Core Laboratory by experts blinded to all clinical data. The following echo parameters were measured at each visit: LVEF, mitral inflow E, A, and E/A ratio, and tricuspid annular plane systolic excursion (TAPSE, cm), measured by 2D-echocardiography from the apical 4-chamber view. Analysis of variance for repeated measures was used for time-dependent changes of echo parameters.

RESULTS: In this low-risk MI population, no differences in TAPSE with respect to the site of infarction were found. Overall, there was a significant increase in TAPSE at each visit: LVEF, mitral inflow E, A, and E/A ratio, and tricuspid annular plane systolic excursion (TAPSE, cm), measured by 2D-echocardiography from the apical 4-chamber view. Analysis of variance for repeated measures was used for time-dependent changes of echo parameters.

CONCLUSION: Assessment of right ventricular function in AMI patients by 2D echo measuring TAPSE and RVOT f% seems a reasonable and easy to apply clinical method in selecting those patients with poorer prognosis.

578 The assessment of LV function and morphology in patients with suspicion of ARVD.

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Introduction: Arrhythmogenic Right Ventricular Dysplasia (ARVD) is one of the most common primary diseases of right ventricle. MRI examination can show us specific morphologic abnormalities which are used as diagnostic criteria at the early stage of ARVD.

Aim: We evaluated right and left ventricular function and morphology with the use of MRI to detect major and minor symptoms of ARVD.

METHODS: From January 2001 to March 2003, 24 patients (2 W, 19-35 (38 ± 11.5) years of age were enrolled in this study after 24-hour ECG monitoring and echo-cardiography findings of ARVD. All these patients had RV dilatation, and ventricular arrhythmias (Ventricular Extrastyles – 1000/24 h – 21 pts, Late potentials – 6 pts, QRS prolongation – 6 pts, T wave inversion – 4 pts, VT history -3 pts) 8 pts had a family history of sudden cardiac death. The MRI was performed using Magnetom Vision Plus 1.5 T and Sonata Maestro Class 1.5 T. MRI protocol consist of: RV evaluation - ejection fraction (EF), diameter, and wall motions abnormalities (WMA) were assessed and fatty infiltration detection. LV evaluation: EF, wall motions abnormalities, contractility, wall thickness and thickness, tissue morphology (heavy weighted T2 and late enhancement (LE) study 6 pts) Post processing data and LV and RV functions measurements were performed using Leonardo Workstation (Argus software).

RESULTS: In MRI examination we found RV dilatation in all 24 pts (mean – 40 ± 6 mm, 35-50), RV EF were decreased in 18 pts (total average = 38 ± 11%, 19 – 60%). The fatty infiltrations were found in 4 patients only in RV-free wall, the aneurysms of RV-free wall were found in 12 pts. The RV WMA were detected in 14 pts. Decrease of EF was found in 10 pts (mean 54% ± 12, 32% – 65%), the LV – hypertrophy was detected in 10 pts. WMA was found in 10 patients. In 1 of 6 pts the subendocardial region of LE was detected.

Conclusion: The left ventricular function was decreased in significant number of studied patients.

579 Assessment of right ventricular function in ARVC/D patients by 2D ECHO.

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Background: Right ventricular function evaluation remains a diagnostic challenge, both for non-invasive and invasive methods. Tricuspid anterior plane systolic excursion (TAPSE) has been shown to correlate with its overall function (in adults) particularly in systole, as assessed by ejection fraction. Due to its complex anatomy RV systolic function can be objectively estimated by radionucleide ventriculography (RNV) which is done in a standard way.

Aim: We wanted to describe the echocardiographic findings in patients with ARVC/D matching RTOV f% and TAPSE parameter with RVEF measured by RNV.

METHODS: 30 patients with ARVC diagnosis (based on the score of clinical signs obtained from an ESC/WHF expert consensus including major and minor criteria) were included in this study. Their age was 22-48 years, gender female (13) and male (17). We compared RVEF with TAPSE and RVOT f% in those patients in a group of 20 normal subjects and matched them in age and gender.

RESULTS: As shown in the table TAPSE correlated well with the progressive loss of RVEF power, as well as with RVOF f% with the approach to show remarkable load sensitivity in those patients, as compared to control subjects.

<table>
<thead>
<tr>
<th>Correlation in estimation of RV function</th>
<th>Total No pts</th>
<th>ARVC/D pts</th>
<th>Control subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPSE</td>
<td></td>
<td>12 ± 2</td>
<td>22 ± 6</td>
</tr>
<tr>
<td>RVEF (%)</td>
<td></td>
<td>40 ± 8</td>
<td>56 ± 4</td>
</tr>
<tr>
<td>p&lt;0.05</td>
<td></td>
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Conclusion: Assessment of right ventricular function in ARVC/D patients by 2D ECHO measuring TAPSE and RVOE f% seems a reasonable and easy to apply clinical method in selecting those patients with poorer prognosis.