Methods: All pts in sinus rhythm with LBBB and all pts, in any atrial rhythm presenting with RVP, referring for echocardiographic examination, were consecutively included. Pts were divided in two groups according to the presence of RVP or LBBB and underwent a standard echocardiographic examination including the evaluation of ventricular asynchrony by TDI. To assess LV systolic and diastolic synchronicity, standard deviation of time to peak systolic velocity (TS) and of time to peak early diastolic velocity (TE) from the 12 LV myocardial segments in each patient were calculated, and the values of 32.6 ms and 30.1 ms were used as cut-off for systolic and diastolic asynchrony respectively.

Results: Sixty-two pts were enrolled (31 LBBB/31 RVP). Seven pts (23%) with continuous RVP had permanent atrial fibrillation. The duration of RVP was in all pts longer than 1 year. Pts with LBBB had significantly higher prevalence of dilated cardiomyopathy (p<0.05). There was no significant difference in age, sex, and in two groups in terms of sex, age and drug's prescription. Pts with continuous RVP had significantly longer QRS duration (184±34 vs 151±24 ms, p<0.001). There was no significant difference in the prevalence of left intraventricular systolic and diastolic asynchrony. The mean time intervals TS and TE of the 12 LV segments, were statistically greater in the RVP group than in LBBB one (256±53 vs 229±44 ms and 622±51 vs 590±50 ms respectively, p<0.05). RVP pts showed a consistently shorter LV filling time (413±136 vs 510±168 ms, p<0.03) and higher LV EF (41±16 vs 32±16%, p<0.05). Mean heart rate during examination was not statistically different between groups. RVP pts, divided according to QRS width (<180 ms/>=180 ms), showed different degree of diastolic asynchrony, being more different between groups. RVP pts, divided according to QRS width (<180 ±16%, p<0.05). Mean heart rate during examination was not statistically significant between the two groups (120±12 vs 121±15 ms, p=0.5). There was no significant difference in the prevalence of interventricular and intraventricular dyssynchrony in heart failure patients with RBBB.

Methods: A total of 123 consecutive patients (69 patients with left bundle branch block (LBBB) and 54 ones with RBBB) with severe heart failure were prospectively included. Different parameters of inter and intraventricular dyssynchrony was measured by tissue Doppler echocardiography and was compared between two groups.

Results: Baseline demographic characteristics were not different between two groups. LV ejection fraction (EF) was 46.6±13.2% vs 57.1±9.5%; male gender 59% vs 46%; insulin heart disease 76% vs 74%; QRS width 139±130 ms; ejection fraction 33% vs 31%; All p=NS. All the parameters of intraventricular dyssynchrony were significantly higher in patients with LBBB compared with those with RBBB (Total asynchrony index 46% vs 46%; p<0.05, Septal posterior wall motion delay 58% vs 44%; p<0.05, Septal lateral wall motion delay 71% vs 48%; p=0.029). Interventricular dyssynchrony did not seem to have any significant difference between two groups (56% vs 49%; p=0.11).

Conclusion: The majority of heart failure patients with RBBB do not have any significant mechanical dyssynchrony in tissue Doppler echocardiography and have significantly lower incidence of dyssynchrony in comparison with heart failure patients with LBBB. This study does not support the use of CRT in RBBB patients unless tissue Doppler study demonstrates significant mechanical dyssynchrony.

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