We assessed the dynamic changes in DYS post DOB and related them to resting regional LV delays, as well as to LV functional and volume changes post biventricular pacing (BIV).

**Methods:** 20 consecutive patients (pts) who underwent BIV were studied (age 58±9, rhythm fractionation). Using Doppler tissue imaging (DTI) time delays (dt) were assessed from QRS to peak of systolic velocities at basal (1), mid (2) and apical (3) regions of septal (S) and lateral (L) wall (4 chamber apical view, baseline (NoPace) and during BIV). The respective dt was also measured at rest (R) and DOB. Time differences (D-dt) between D and R for each region at NoPace and BIV, as well as between BIV and NoPace were calculated.

**Results:**
1. At NoPace, DOB decreased dt compared to R in S1 (p=0.03) and in L3 (p=0.03).
2. At BIV, further decreases were found at DOB compared to R: 3. LV Vol decreased in S1 (2764±86 vs. 2464±74, p=0.004) and in L3 (0.0324±0.055, p=0.036).

**Conclusion:** Delay of the peak of LV longitudinal systolic Vel was decreased during BIV in basal septal and lateral wall regions. Decrease in DTI at BIV compared to R was related to that at baseline post DOB in both septal and lateral wall regions. Evaluation of LV dyssynchrony is based upon only resting time differences post BIV in both septal and lateral regions.

### 496 Left ventricular longitudinal systolic function improvement post biventricular pacing: relationship with changes of dyssynchrony induced by low dose dobutamine before pacing

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**Introduction:** Left ventricular (LV) resynchronization (BIV) is an evolving heart failure (HF) treatment. Evaluation of LV dyssynchrony is based upon only resting time delays of peak systolic velocities and there are no data about delays post dobutamine (DOB). We assessed the dynamic changes of regional time delays post DOB and related them to LV longitudinal function by Doppler tissue imaging (DTI) post BIV.

**Methods:** 20 consecutive patients who underwent BIV were studied (age 58±9, rhythm fractionation: 28±6). Using DTI, time delays (dt) were assessed from QRS to the peak of systolic velocities were measured at the basal (1), mid (2) and apical (3) regions of septal (S) and lateral (L) wall, using 4 chamber apical view, at baseline (NoPace) and during BIV. The respective dt was measured at rest (R) and post low dose (5 min stages of 5 and 10  

**Conclusion:** Improvement in LV function and volume post BIV is related with dynamic DOB improvement before BIV in both septal and lateral regions.

### 498 Selection of candidates to cardiac resynchronization therapy: does intra-ventricular dyssynchrony matter?

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**Background:** Cardiac resynchronization therapy (CRT) can be beneficial to patients with heart failure (HF) and abnormal electrical activation. However, prospective identification of patients responders to CRT remains still unclear. Pulsed-wave (PW) Doppler Myocardial Imaging (PW-DMI) may help to clarify cardiac asynchrony. The aim of the study is to determine whether the presence and magnitude of myocardial asynchrony in the absence of left bundle branch block (LBBB) is an independent predictor of CRT responders among HF patients.

**Methods:** A total of 30 consecutive patients (pts) with NYHA Class II-IV, ejection fraction (EF) <35% and one of the following markers of dyssynchrony: (1) LV + RV asynchrony, (2) LV - RV asynchrony, (3) LV + RV + septal dyssynchrony were assessed from measurements of regional Q-Sm of the LV in patients with intra-ventricular asynchrony and compared to those of 20 healthy subjects matched by gender and age criteria.

**Results:** The mean age of CHF group was 61±12, 19±30% were females. All pts had NYHA class III & IV and their EF was 34.7±7%. Intra-LV delay & intra-V delay were 46.3±211, 30.1±23.9 ms respectively. The QT & QTc were significantly higher in CHF patients in comparison to control (64.6±41, 53±34 vs. 20±1.46, 44±1.35 ms respectively). The presence of intra-LV (but not inter-V) asynchrony was positively correlated with QT and QTd (r=0.69, p=0.031 respectively). This was correct for CHF patients but not for healthy control. QTd correlated positively with LV wall stress (r=0.437, p<0.05). The mean QS dispersion at 116±37 ms was significantly increased in patients with HF and weakly correlated to intra LV and inter-V asynchrony (r=0.249, r=0.026, p=0.05, 0.05 respectively).

**Conclusion:** In patients with CHF and no LBBB QT dispersion is strongly correlated to the intra LV but not to inter V asynchrony. The combination of measurement of QT dispersion and QRS duration to electromechanical delay could be helpful in risk stratification in CHF patients. Inclusion of cardiac enenergetics/metabolic (ICD) in patients with intra-ventricular asynchrony and increased QT dispersion may improve the clinical outcome after resynchronization therapy.