**ASSESSMENT OF LEFT VENTRICULAR UNTWISTING BY SPECKLE-TRACKING ECHOCARDIOGRAPHY IN PATIENTS WITH AORTIC REGURGITATION**

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**BACKGROUND**
- Left ventricular (LV) twist, as a result of counter-rotation of the apex and base during systole, and its subsequent untwisting during diastole represent important components of LV contractility and diastolic function.
- In patients with chronic severe aortic regurgitation (AR) and preserved LV ejection fraction (LVEF) LV diastolic dysfunction is a common finding.
- Data regarding LV untwisting as a parameter of diastolic function in patients with AR are lacking.

**PURPOSE**
To assess LV untwisting and its determinants in patients with chronic AR as compared to normal subjects.

**METHODS**
- Thirty five consecutive patients with moderate and severe chronic AR and 20 normal subjects were prospectively studied.
- Exclusion criteria for patients with AR were: LVEF ≤50%, significant coronary artery disease, any LV wall motion abnormality, more than mild associated valvular heart disease, non-sinus rhythm.
- A comprehensive echocardiography was performed in all subjects.
- Basal and apical LV rotation and LV torsion were quantified from 2D greyscale LV parasternal basal and apical short-axis views during end-expiratory breath hold by speckle-tracking echocardiography (STE) using dedicated software (2D strain, EchoPac).

**RESULTS**
- **Demographic, clinical and echocardiographic characteristics of AR patients as compared to normal subjects**
- **Parameters of LV untwisting and LA strain in the study population**
- **Correlates of LV untwisting velocity in AR patients**

**CONCLUSION**
LV untwisting, as assessed by STE, is reduced in patients with significant AR and normal LVEF, and this is due to significantly decreased apical diastolic rotation rate. LV hypertrophy emerged as an independent determinant of LV untwisting velocity in these patients.