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## Effect of chronic total occlusion of right coronary artery on the flow velocity profile of left anterior descending coronary artery

### Abstract: P5247

#### Effect of chronic total occlusion of right coronary artery on the flow velocity profile of left anterior descending coronary artery

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**Background:** Transthoracic Doppler echocardiographically (TTDE) determined diastolic coronary low velocities (DCFV) are widely used for diagnosis of significant coronary artery stenosis (CAS). However, those factors influencing such DCFV are not well studied.

**Aim:** To evaluate of the effect of chronic total right coronary artery occlusion (CTRCAO) on the TTDE derived DCFV spectrum of the proximal left anterior descending coronary artery (LAD).

**Methods:** We enrolled 23 patients [16 male (70%), mean age 59±10 years] with CTRCAO and without stenosis of LAD and 13 [5 male (38%), mean age 62±10 years] age matched control subject without cardiovascular disease. All patients underwent a PCI attempt aiming the opening of the CTRCAO. All patients and control subjects underwent detailed TTDE at the beginning of the study. Patients with successful CTRCAO PCI underwent a repeated DCFV assessment by TTDE. DCFV were assessed by TTDE interrogating the proximal LAD. Peak (PDCFV) and velocity-time integrals (DCFVTI) of the DCFV spectrums were measured.

**Results:** The mean Rentrop collateral grade was 2.2±0.7 in CTRCAO patients. Both DCFV parameters were significantly higher in CTRCAO patients before PCI compared to control subjects (PDCFV: 74.9±31.9 vs. 45.8±15.6 cm/sec, p<0.01; DCFVTI: 21.8±6.3 vs 14.5±7.9 cm/sec, p<0.05). The PCI was successful in 18 patients (78%). PDCFV and DCFVTI decreased significantly after successful PCI of CTRCAO when compared to DCFV values measured before interventions (Table).

**Conclusion:** Presence of CTRCAO is accompanied by elevated DCFV profile of the non-diseased LAD coronary artery. Successful PCI of CTRCAO results in significant decrease of LAD DCFV values.

	Before CTRCAO PCI	After CTRCAO PCI	p value
Peak LAD DCFV (cm/sec)	72.8±31.4	52.2±20.6	p<0.01

VTI of LAD DCFV (cm)	22.4±4.1	15.2±7.7	p<0.05
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Results are expressed as mean ± SD; CTRCAO = chronic total right coronary artery occlusion; DCFV = diastolic coronary flow velocity; VTI = velocity time integral; PCI = percutan coronary artery intervention.