Methods: Between October 2003 and June 2010, a total of 1509 consecutive patients were treated for Chronic Total Occlusion (CTO) defined as the presence of TIMI 0 flow within an occluded arterial segment of greater than 3 months standing. The population characteristics were compared regarding the presence of per and post-procedural tamponade.

Results: A cardiac tamponade occurred in 18/1509 patients (1.2%). As opposed to patients with a tamponade-free procedure, patients who have experienced cardiac tamponade were significantly older (68.6 ± 10.34 vs. 63.1 ± 11.29, p = 0.03) and had similar risk factors (diabetes in 27% and dyslipidemia in 64%). Cardiac tamponade occurred more frequently in experienced operators reflecting more complex procedures. Absence of visible stump was associated with higher rate of cardiac tamponade (50% vs. 24.8% for patients with and without tamponade, p = 0.02). There were no differences regarding other angiographic characteristics between the two groups (calcifications, proximal tortuosities, lesion length). The use of a torus device and a retrograde approach were associated with higher rates of cardiac tamponade (0.17 vs 0.02 p = 0.01, and 0.28 vs 0.02, respectively). Procedural duration was longer in patients in whom a cardiac tamponade occurred (124 ± 24 minutes, vs. 92 ± 37 minutes, p = 0.01) and success rate was equal (0.77 vs 0.70, p = 0.61, respectively). Importantly, in-hospital stay was longer (7.2 ± 3.6 months, vs. 3.1 ± 3, p < 0.001, respectively), and rate of in-hospital death was higher among patients who have experienced cardiac tamponade compared to those without per and post-procedural tamponade (11% vs. 1%, p = 0.01, respectively).

Conclusions: Cardiac tamponade occurred in 1.2% of a broad population of consecutive patients treated by PCI for chronic total coronary occlusion. Absence of visible stump and use of aggressive devices and strategies were more frequently associated.

TCT-377
Myocardial Performance Index After Successful Recanlization of Chronic Total Coronary Occlusions
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Background: Percutaneous recanalization of chronic total coronary occlusions (CTO) tends to show a positive effect on LV remodeling and ejection fraction (EF). Nevertheless, its effects on global cardiac functions are yet to be fully understood. Myocardial performance index (MPI) is likely to be more effective for analysis of global cardiac function than two dimensional (TD) measures alone. The aim of this study was to evaluate the effects of recanalization of CTO on global cardiac functions by using MPI.

Methods: We evaluated 25 patients (20 men, mean age 57.5 ± 14.1 years) who had ischemia on myocardial perfusion imaging and underwent successful percutaneous coronary intervention of right coronary artery (RCA) CTO. All patients underwent transthoracic echocardiography before (basal), 24 hours after (early) and at 3 months (late) of successful PCI. The MPI was calculated by using pulse wave tissue Doppler (TD) echocardiography.

Results: There was no difference between basal, early and late left ventricular ejection fraction values (53.1 ± 10.2, 53.3 ± 9.5, 53.3 ± 11.2, respectively). The MPI at early month was significantly increased compared to the basal and early MPI (0.61 ± 0.09 vs. 0.53 ± 0.07; p < 0.01, and 0.60 ± 0.08 vs. 0.53 ± 0.07; p < 0.001, respectively). On the other hand, there was no significant difference between basal and early MPI (0.61 ± 0.09 vs. 0.60 ± 0.08; p = 0.84, respectively). Also, TD MPI within 3 months was significantly increased when compared to others (0.58 ± 0.09 vs. 0.53 ± 0.08; p = 0.003, 0.57 ± 0.07 vs. 0.53 ± 0.08; p < 0.001, respectively for TD MPI septal and 0.59 ± 0.08 vs. 0.51 ± 0.07; p < 0.001, 0.58 ± 0.08 vs. 0.51 ± 0.07; p < 0.001, respectively for TD MPI lateral).

Conclusions: In this study, we have shown that successful recanalization of CTO results in increased MPI-estimated global cardiac functions within 3 months, while the EF values remained unchanged.

TCT-378
Drug eluting stents with bioresorbable polymer – short and long term clinical outcomes in the treatment of CTO lesions
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Background: New generation drug eluting stents (DES) significantly improved short- and long-term vessel patency after CTO recanalization. Data on the performance of...