avec un rai diamètre de 1.5 mm) pour restituer l’antergade de flux en préservant un sténose très sévère. Dans un groupe de contrôle initial, le flux a été mesuré par rapport à 0.007

**POSTERS**

**TCT-219**

**Evaluating Ischemia Of An Intermediate Stenosis In A Donor Artery During Recanalization Of A Chronic Total Occlusion**

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**Background:** Case reports have shown that intermediate stenosis in the donor artery collateralizing the myocardium of a chronic total occlusion (CTO) can produce an ischemic fractional flow reserve (FFR) which returns to the normal range with CTO recanalization. We present a consecutive series, determining the frequency and clinical impact of this phenomenon.

**Methods:** The study cohort were patients presenting with angina who had a CTO, an intermediate stenosis in the donor artery, FFR of the donor artery pre- and post-PCI of the CTO, and successful PCI of the CTO.

**Results:** Forty of 50 CTO patients were identified during the study period. Eight patients had CTO of the right coronary artery (RCA), 3 the left circumflex (LCx) and 3 RCA and LCx. Left anterior descending artery (LAD) was the donor artery in 13 and LCx one. Percent stenosis of the donor artery was 38±6.9% and mean CTO length was 34.1±17.7 mm. Five patients had normal FFR of the donor artery pre- and post-PCI of the CTO. Of 9 ischemic FFR patients pre-PCI, 6 reverted from ischemic to non-ischemic and the other 3 remained in the ischemic range. In the ischemic FFR group who reverted to normal, the average FFR of donor artery pre-recanalization was 0.76±0.04 and 0.80±0.04 post-PCI. All ischemic patients had septal collaterals originating distal to the donor artery stenosis and the CTO vessel was supplying a large amount of myocardium.

**Conclusions:** In patients with a CTO and an intermediate stenosis of the donor artery, the frequency of ischemia in the donor artery is relatively high and may be normalized in almost half the cases by successful CTO recanalization. This reversion to normal is likely secondary to eliminating the donor artery blood flow to the myocardium from the CTO. These data suggest that recanalizing the CTO first whenever possible is a preferred therapeutic strategy which may avoid need for PCI to a donor artery or multivessel bypass surgery.

**TCT-220**

**The impact of the supply area on the fractional flow reserve value in stable coronary artery disease**

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**Background:** Physiological analysis of coronary artery disease (CAD) is discrepancy between angioanatomic and ischemia-causing stenosis. To overcome this limitation, analyses of intracoronary radionuclide attenuation such as transluminal attenuation gradient (TAG) and corrected coronary opacification (CCO) have been attempted but without physiological validation. We validated and compared TAG and CCO against invasively measured fractional flow reserve (FFR).

**Methods:** From 63 patients who underwent CCTA and followed by invasive quantitative coronary angiography (QCA) and FFR, we measured TAG and CCO of 97 major epicardial coronary arteries. Diagnostic performance for ischemia-causing stenosis was assessed using FFR <0.80 as the reference standard. A total of 40 (41.2%) vessels showed FFR <0.80.

**Results:** The overall diagnostic performance of TAG and CCO was moderate and not significantly different each other (s-statistics = 0.696 vs. 0.637, p=0.29). The sensitivity, specificity, PPV and NPV of TAG cut-off <−0.654 (HU/mm) for FFR <0.80 were 47.5%, 91.2%, 79.2%, 71.2%, and those of CCO cut-off <0.063 were 65.0%, 61.4%, 54.2%, 71.4% on a per-vessel basis. Both TAG and CCO did not show significant incremental value when added to diameter stenosis >50% by QCA (p<NS). In left anterior descending artery (LAD) and non-LAD subgroup analysis, no significant reclassification was found by TAG, but reclassification was significantly negative by CCO in LAD subgroup (net reclassification index = −12.7%, p=0.027).

**Conclusions:** Intracoronary attenuation-based CCTA analyses, TAG and CCO, showed moderate correlation with physiological coronary artery stenosis and no incremental value to the FFR. The value of CCO seemed to be limited for the evaluation of stenosis in LAD.

**TCT-222**

**Combining parameters of coronary angiography and intracoronary pressure measurement predicts more precisely the severity of the ischemia on the myocardial perfusion scintigraphy than the fractional flow reserve alone**

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**Background:** Current concept regards the fractional flow reserve (FFR) as an indicator of the ischemic consequence of a coronary lesion independently of the localization on the coronary tree.

**Methods:** The coronary angiograms of 28 patients were analyzed by a computer program called Holistic Coronary Care. The software registered 23 epicardial coronary segments using the modified Syntax segmentation system and rendered the supplied left ventricular segments on the standard 17-segment polar map to each coronary branch. FFR measurements of 36 vessels were compared with the myocardial perfusion SPECT studies performed before the invasive procedure. We introduced a new ischemic index by combining the FFR with the number of the corresponding myocardial segments (NI: left ventricular ischemic index (LVII=N X (1-FFR)) on myocardial perfusion defects identified on the scintigrams. Perfusion reversibility score of 2 or above was considered as indicative of active ischemia (regional Difference Score: rDSc).

**Results:** Close linear relationship was found between the LVI and the rDSc (P<0.001) (y = −2.20 + 3.75x, r=0.88, p<0.001). Analyzing all the FFR values independently of the localization of the lesions, they also correlated significantly with the rDSc, but the relation was less strong: r=0.60. LVII=N X (1-FFR) on myocardial scintigraphy with 77.8% sensitivity and 94.4% specificity when the cut off value was set to 0.96. FFR alone predicted the ischemia on the scintigraphy with 72% sensitivity and 94% specificity at the best 0.8 cut off value. The area under the Receiver Operating Characteristic (ROC) curve was significantly higher for LVI than FFR (0.92 vs. 0.78; P<0.001).

**Conclusions:** Our results shows that the LVI >0.96 indicates clinically relevant stenotic lesion. In this concept the FFR value together with the number of corresponding left ventricular segments rather than alone predicts the severity of myocardial ischemia.