balloon is an angioplasty catheter with 3 longitudinal elements that produce 3 endothelial optical sections during balloon dilation. The aim of this study was to evaluate plaque modification with NSE compared to those with conventional balloon angioplasty (POBA) using IVUS.

Methods: A total of 62 de novo coronary lesions were enrolled in this study. Patients were divided into 2 groups according to pre-dilatation strategy: NSE (n=32) and POBA (n=30). Volumetric IVUS analyses were performed for before and post-stenting. Volume index (VI: volume/length) was calculated for vessel, lumen, and plaque.

Results: Vessel VI before stenting was similar between the 2 groups. For the post-stenting vessel and peri-stent plaque VI were significantly smaller in the NSE group compared with the POBA group, while stent VI was similar between the 2 groups. In addition, serum level of creatine kinase and troponin level after stenting was not compared with the POBA group, while stent VI was similar between the 2 groups. In conclusion, OCT might be feasible for quantitative measurements of vessel size in the lesion with the lipid arc of ≤ 3 quarters.

Left Atrial Appendage Closure
(TCTAP A-087)

Percutaneous Left Atrial Appendage Occlusion Can Be Performed Under Conscious Sedation Without General Anesthesia
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Background: Percutaneous left atrial appendage occlusion (LAOO) procedure is typically performed with transesophageal echocardiography (TEE) guidance under general anaesthesia (GA). Whether the complexity of this procedure can be reduced by performing under conscious sedation (CS) instead of GA has not been studied.

Methods: The feasibility and safety of performing LAOO procedures in 8 patients (4 men, mean age 67±10) under CS with intravenous Midazolam±Fentanyl was studied. TEE was used to guide transseptal puncture and implantation of LAOO devices. Patients' haemodynamic conditions and oximetry were monitored closely during the procedures.

Results: All patients underwent LAOO procedures successfully with CS. The procedural duration and fluoroscopic time were 98.6±27.1 and 14.4±5.2 minutes respectively. The doses of Midazolam and Fentanyl required were 5.7±2.0mg and 56.3±32μg respectively. There was no complications arising from the use of CS. Watchman and Amplatzer Cardiac Plug (ACP) devices were implanted in 6 and 3 patients respectively with a mean size of 27.6±5.2mm. One patient had minor migration of ACP device on day one routine TEE surveillance. The device was successfully retrieved percutaneously and the patient was free from any long-term sequelae. With a median follow-up of 15.5 months, warfarin could be successfully stopped in all patients and no thromboembolic complications have been observed.

Conclusion: LAOO procedure can be performed under CS safely. This approach will significantly reduce the complexity of this increasingly performed procedure.

Non-Invasive Cardiac Imaging: CTA, MRI, 3D-Echo, and Other
(TCTAP A-088 to TCTAP A-092)

TCTAP A-088
Validation of Stress Myocardial Perfusion Computed Tomography in Patients with Suspected Coronary Artery Disease Using Fractional Flow Reserve: Visual Assessment and Exploration of Quantitative Parameters
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Background: To assess the diagnostic accuracy of stress-induced computed tomography myocardial perfusion imaging (CTP) in patients with coronary artery disease (CAD). There was lack of data on the validity of CTP for diagnosing CAD.

Methods: From 197 patients with suspected CAD receiving CTP using second generation dual-source CT, 75 who underwent coronary angiography and fractional flow reserve (FFR) for 210 epicardial arteries were selected for analysis. The diagnostic accuracy of visual and quantitative CTP analyses including transmural perfusion ratio (TPR), myocardial density, and myocardial perfusion reserve index (CTP A-088)