RESULTS The mean procedure time for the FASG with window shaped fenestration was 23.0 ± 6.0 minutes. Meanwhile, the mean time for the selection of the right carotid artery was 3.6 ± 0.9 minutes. There was no major adverse event in the 6 pigs. Six pigs survived the 8-weeks observational period. For FASGs with window shaped fenestration, no endoleaks, no disconnection of the stent grafts, and no occlusion of the stent grafts for the carotid arteries were observed in the DSA at 4 weeks. Moreover, no disconnection or tearing of the stent grafts, no fractures in the stent grafts, and no occlusion of the stent graft for carotid arteries were found in the postmortem gross findings.

CONCLUSION The window shape FASG with the preloaded catheter developed for emergency was found to be safe and convenient to use in this preclinical study with swine. Readymade window shape FASGs which have several sized fenestrated window can be applied in case of emergency.

TCTAP A-075
High-Flow Continuous Hemodiafiltration (HF(CHDF)) During CAG and PCI/PPI for Prevention of Contrast-Induced Nephropathy in Patients with Advanced Chronic Kidney Disease: A Pilot Study
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BACKGROUND Although it is well known that the chronic kidney disease (CKD) is a key factor for CIN, the effective therapy for the prevention of CIN especially in advanced CKD-Patients has not been established so far. Recently, it was reported that continuous hemodiafiltration (CHDF) could prevent CIN and reduce in-hospital mortality in advanced CKD-patients via both filtering contrast and administration of alkaline agents. However, this method requires a long duration-time (18 to 30 hours) because of its low removal efficiency. Applying this principle, we established a novel continuous hemodiafiltration (CHDF) technique to get more effective blood clarification which promotes replacement and dialysate flow up to 5 times compared to standard CHDF. By using this method we demonstrated that the required time for 99% removal of contrast could be shorten to one hour (about 4.5 hours) in our vitro experiment and named this procedure as High-flow CHDF (HF(CHDF)). In this report, we performed HF(CHDF) in clinical application for advanced CKD-Patients required intervention.

METHODS We retrospectively analyzed the incidence of CIN in consecutive 43 advanced CKD patients (8 in stage 3b, 33 in stage 4, and 2 in stages) from Jan. 2009 to Dec. 2013. In addition of 0.9% saline hydration, HF(CHDF) was performed from just before the procedure until 2.5 hours after intervention in all patients. We defined CIN as sCr increase over 25% from the baseline value at the point of 1 month after intervention.

RESULTS At baseline, mean serum creatinine (sCr) was 2.31 ± 0.62 mg/dl, and mean eGFR was 24.0 ± 6.5 ml/min/1.73m2. And, sCr was 2.29 ± 0.79 mg/dl, eGFR 25.6 ± 9.6 ml/min/1.73m2 at 1 month after procedure. The incidence of CIN was 4.6% (2 in 43), which was remarkably lower than previous reports (the incidence of CIN by hydration only was 15-20%, by alkaline agents was 10-15%). Rate of occurrence requiring permanent HD due to CIN within 1year was 2.3%.

CONCLUSION HF(CHDF) method during and after PCI and PPI procedure which we have established could be new standard for preventing CIN in advanced CKD-patients required intervention.

Following this pilot study, multi-center trial is now ongoing to construct further evidence in Japan.

INVASIVE CORONARY IMAGING: IVUS, OCT, SPECTROSCOPY, AND OTHER (TCTAP A-076 TO TCTAP A-083)

TCTAP A-076
Pattern of In-Stent Restenosis in Saphenous Coronary Vein Grafts – Insight from Optical Coherence Tomography (OCTOPUS Registry)
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BACKGROUND Approximately 30% of stents implanted into saphenous vein grafts (SVG) fail at 3-years follow-up. Although the pathology of in stent restenosis (ISR) in SVG was presented by autopsy study, there are just few reports using invasive imaging.

METHODS The report presents optical coherence imaging (OCT) imaging of ISR in SVG from 8 cases [in total 168 mm of ISR morphology] enrolled into OCTOPUS Registry. The mean time from implantation was ±23 months.

RESULTS The report presents optical coherence imaging (OCT) imaging of ISR in SVG from 8 cases [in total 168 mm of ISR morphology] enrolled into OCTOPUS Registry. The mean time from implantation was ±23 months.

CONCLUSION HF(CHDF) method during and after PCI and PPI procedure which we have established could be new standard for preventing CIN in advanced CKD-patients required intervention.

Figures: The summary graph of in-stent neointima composition of ISR in SVG. The figures represent neointima composition in every 1mm in restenosis BMS and DES implanted into the SVG. A one circle and a one box indicate a 1mm of BMS and DES respectively.

CONCLUSION Patterns of in-stent neointima of SVG ISR were shown: fibrotic, lipid, heterogeneous, and calcified. Heterogeneous pattern seems to develop earlier in DES vs. BMS.