statistically significant ($p < 0.05$). However, overall success rate has increased to 87.7% in iliac CTO group and to 84.2% in femoral CTO group. His alternative strategies after the initial reentry failure is very important and can improve overall success rate of endovascular recanalization of the iliac and femoral CTOs.

TCTAP A-102

1 Year Clinical Outcome of Endovascular Therapy for the Critical Limb Ischemia with Below the Knee Disease

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BACKGROUND Endovascular therapy (EVT) have been developed, however patients with critical limb ischemia (CLI) have a poor prognosis. To evaluate 1 year clinical outcomes after EVT for CLI with below-the knee (BK) disease from daily practice.

METHODS Between 2011 July and 2013 July, 40 patients with CLI were treated BK interventions. We investigated the occurrence of clinical events within 12 months after EVT, such as death, major and minor amputation, and revascularization.

RESULTS Of these patients, mean age was 75.0±8.2 years, 52.5% (21/40) was male. Rutherford class 4 was 8 patients, 5 was 30 patients and 6 was 2 patients. Hypertensive patients were 33(82.5%), Dyslipidemia were 16 (40%). Diabetes were 30 (75%), Hyperuricemia were 5 (12.5%), prior and current smoker were 19 (47.5%) and Hemodialysis patients were 9 (22.5%). 12 months after EVT (follow up % was 95%), there were 2 deaths (8.3%), 0 major amputation (0%), 6 minor amputations (25.0%). 33.3% of all patients were needed revascularizations.

CONCLUSION 1 year clinical outcomes after endovascular therapy for critical limb ischemia with below-the knee disease were acceptable in our hospital.

TCTAP A-103

A Two-year Experience of an Early Invasive Protocol for Suspected Acute Mesenteric Ischemia: A Single Center Pilot Study: A Two-Year Experience of an Early Invasive Protocol for Suspected Acute Mesenteric Ischemia: A Single Center Pilot Study

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BACKGROUND Acute mesenteric ischemia carries high morbidity and mortality rates unless urgently treated. In patients without evident bowel necrosis on computer tomography, the treatment remained conservative in less experienced hospital. When a suspicious case progressed into septic shock, the patient was usually too ill to receive definitive surgical management. Unless an early invasive angiography strategy was adopted, it is sometimes difficult to establish definitive diagnosis in early cases without signs of bowel necrosis. Hence, we developed a protocol-driven strategy to improve definitive diagnosis, endovascular salvage, and survival rates. We aim to report our two-year results with this protocol-driven strategy.

METHODS We developed a protocol for patients with clinically suspected acute mesenteric ischemia visiting the emergency room in a rural hospital. Patients who presented with acute abdominal pain with suspicious mesenteric ischemia by contrast CT study were enrolled and prospectively followed. The inclusion criteria were: 1. emergency room visit for acute abdominal pain or shock with elevated lactate level, 2. suspected thrombus formation or decreased flow in one of the mesenteric vessels. The exclusion criteria were: 1. definitive pathology other than ischemia found by CT and 2. Bowel necrosis mandating surgical exploration. A dedicated gastroenterologist, an interventional radiologist, two interventional cardiologists, and two general surgeons were invited to provide clinical judgment whether early invasive strategy is justified when no bowel necrosis signs were found by CT. We prospectively collected angiography findings, treatment results, complications, and survival rates of confirmed acute mesenteric ischemia. The primary outcome was survival in confirmed cases.

RESULTS From August, 2012 to August, 2014, total 1916 contrast-enhanced abdominal computer tomography was performed in our emergency room for acute abdominal pain. Eight patients fulfilled the inclusion criteria. All enrolled patients proceed to complete the protocol of early invasive strategy. All had acute mesenteric ischemia confirmed by selective angiography. Endovascular salvage with equipment used in primary percutaneous coronary intervention for ST-elevation myocardial infarction was attempted. The angiographic success rate was 100% in non-calcified cases (6/8), but 0% in heavily calcified and high thrombus burden cases (2/8). The 30-day survival rate was 100% in angiographic success patients and 0% in failed cases. No procedure-related complication was noted. Five survived patients were discharged within very short ICU stay (less than 48 hours) and appeared well up to 90-day follow-up.

CONCLUSION In patients with suspected acute mesenteric ischemia, a protocol-driven approach with early invasive strategy improved patient outcome with acceptable safety and feasibility.

TCTAP A-104

Randomized Comparison of Vascular Healing Response Between Self-Expanding Nitinol Stent and Self-Expanding Paclitaxel-Eluting Stent in the Superficial Femoral Artery: An Optical Frequency Domain Imaging Study

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BACKGROUND Similar to the coronary artery, late stent thrombosis (ST) due to delayed vascular healing is concerned after drug-eluting stent (DES) implantation in the superficial femoral artery (SFA). Therefore, we analyzed vascular response after DES implantation in the SFA with optical frequency domain imaging (OFDI).

METHODS Consecutive 34 de novo SFA lesions from 30 patients underwent endovascular therapy (EVT) were randomly assigned 1:1 to receive self-expanding bare-metal nitinol stent (BMS, 17 lesions) or self-expanding paclitaxel-eluting nitinol stent (PES, 17 lesions) implantation. Six months after initial EVT, follow-up angiography and OFDI examination were conducted to evaluate the vascular response to the stents. OFDI analyses were performed at 5-mm axial intervals throughout entire stented segments. Neointimal tissue (NIT) thickness inside all stent struts was measured. In the morphological OFDI analysis, the presence of thrombus, microvessels, peri-strut low intensity area (PLIA), and the optical appearance of NIT were analyzed. The optical appearance of NIT was classified into 3 patterns: homogeneous, layered, and heterogeneous patterns. The primary end-point was the percentage of uncovered stent strut at 6-month follow-up.

RESULTS The mean lesion length was 79 ± 46 mm. During follow-up period, 3 patients died, 2 patients refused follow-up examination, and 2 lesions were performed revascularization for restenoses of target lesions. Finally, follow-up angiography and OFDI were performed in 27 lesions and 12547 stent struts were analyzed. The binary angiographic restenosis rate at 6-month follow-up was 21.4% in BMS group and 7.7% in PES group ($p=0.60$). The percentage of uncovered strut was higher in PES group compared to BMS group (15.2% vs. 2.6%, $p<0.01$). Mean NIT thickness was smaller in PES group (426 ± 144 μm vs. 650 ± 165 μm, $p<0.01$). Prevalence of thrombus, microvessels, and PLIA were similar between two groups. Also, there was no significant difference in the optical appearance of NIT.

CONCLUSION OFDI revealed that vascular healing after DES implantation in the SFA was impaired at chronic phase. An adjunctive therapy might be required for prevention of ST after DES implantation.

TCTAP A-105

The Performance of an Exoseal Vascular Closure Device for Achievement of Hemostasis After Femoral Artery Access Cardiovascular Interventions

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BACKGROUND Cardio vascular interventional procedures are still often performed through femoral artery access. Manual compression to the femoral artery is a traditionally method of hemostasis after procedure, but its long time to ambulation and inadequate hemostasis often occurred the complications included major hematoma, bleeding, arteriovenous fistula and deep venous thrombosis. Vascular closure devices (VCDs) are increasing used after various types of cardiovascular procedures including coronary, cerebrovascular and peripheral arterial intervention. And several types of VCDs have become available to the management of access site after those procedures. EXOSEAL VCD device is a bioabsorbable device designed for the sealing of femoral artery puncture site and has a visually guided deployment mechanism that delivers a bioabsorbable poly-glycolic acid plug atop of femoral artery. The aim of this study was to assess the safety and efficacy of an Exoseal VCD device for achievement of