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OR2.2

Preliminary Results of the Indigo/Penumbra System in the Treatment of Acute Arterial Lower Limb Occlusions

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Objectives: Surgical thromboembolectomy was the mainstay of treatment for acute limb ischemia (ALI), but in recent years, different endovascular thrombectomy devices have been introduced as alternative treatment options. The aim of this study is to evaluate, in a controlled setting, the preliminary results in terms of early safety and effectiveness of the Penumbra/Indigo Systems in patients with acute lower limb malperfusion due to peripheral acute occlusions (INDIAN Study). **Methods:** Patients with diagnosis of ALI were collected and treated with Penumbra/Indigo devices. The primary outcome was the technical success of thromboaspiration (evaluated with the thrombolysis in myocardial infarction [TIMI] score classifications before and after use of the device) and the clinical success at follow-up (defined as an improvement of Rutherford classification at 1-month follow-up). The secondary endpoints include the absence of any serious adverse events at discharge, primary patency at 1 month, and limb salvage at 1 month. **Results:** A total of 136 patients were recruited. The mean Ankle brachial index (ABI) before the procedure 0.46, Rutherford class for ALI IIB was present in 39% of the patients, the mean lesion length was 110 mm, and TIMI score 0 was recorded in 79%. After the thromboaspiration alone, TIMI score 2–3 was restored in 89.6% of patients and after additional procedure in the 95.4%. At 1-month follow-up, Rutherford class for ALI I was present in 90.2% of patients and serious adverse events were reported in nine patients (6.6%, of whom 1 amputation 0.8%). **Conclusion:** Preliminary results of the INDIAN Study showed that aspiration-based extraction technique with Indigo/Penumbra is safe and effective for revascularization of acute peripheral arterial occlusion as a primary therapy, and it can represent a viable tool as a secondary therapy after other surgical or endovascular techniques.

OR2.3

Percutaneous Mechanical Athero-Thrombectomy Using the Rotarex®S Device in Peripheral Artery In-Stent Restenosis or Occlusion: A French Retrospective Multicenter Study on 128 Patients

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Objectives: To ascertain the safety and mid-term outcomes of Rotarex®S rotational atherectomy plus thrombectomy device (Straub Medical AG, Wangs, Switzerland) with or without adjunctive treatment (e.g., percutaneous transluminal angioplasty [PTA]/drug-coated balloon [DCB]/stenting) in patients with in-stent restenosis (ISR) or occlusion in the iliac and/or infrainguinal arteries. **Methods:** This was a French multicenter retrospective study of all patients treated by in-stent percutaneous mechanical debulking (PMD) of the lower limbs with Rotarex®S device between January 2013 and November 2018. **Results:** The cohort consisted of 128 patients (88 men and 40 women), aged 39–94 years (median, 66.7 years). All patients presented with cardiovascular risk factors. Overall, 51.5% of the patients had critical limb ischemia. The study demonstrated a technical success of 96.9% in the population with PMD and adjunctive PTA (95/128, 74.2%) or adjunctive DCB (16/128, 12.5%) or both (13/128, 10.2%). At 12-month follow-up, the primary patency rate was 92.3% and the secondary patency rate was 91.4%. The rate of limb salvage was 93.7%. We accounted for 32 (25%) re-interventions with mean time from Rotarex®S treatment to re-intervention of 7.1 ± 8.2 months. Target lesion revascularization (TLR) was 19.5% (25/128). Seven (5.5%) patients developed distal embolism that responded to endovascular treatment. At mean follow-up, major adverse events observed were death (18/128, 14.1%), myocardial infarction (9/128, 7.0%), stroke (2/128, 1.6%), and renal failure (3/128, 2.3%). **Conclusion:** Recanalization with Rotarex®S rotational atherectomy plus thrombectomy device is a treatment of choice for arterial ISR/occlusions of the iliac and/or infrainguinal arteries, regardless of the age of the thrombus, with satisfying TLR. Only adjunctive PTA is often necessary to further improve the recanalization.

OR2.4

Angiosome-Targeted Angioplasty in the Management of Ischemic Foot Ulcers

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Objectives: Based on the angiosome concept in critical limb ischemia patients who presented with isolated tibial lesions and foot ulcers, we evaluated and compared the clinical outcomes, ulcer healing, and amputation-free survival between patients with successful angiosome-targeted tibial angioplasty alone (direct revascularization [DR]), patients with indirect revascularization (IR) in whom the dilated vessels successfully were the nonangiosome target, and those who underwent combined revascularization (CR) (both DR and IR were achieved). **Methods:** We retrospectively analyzed a total of 66 critical limb ischemia patients who presented with ischemic foot ulcer with isolated tibial vessel lesions at Mansura University Hospital from January 2014 to January 2016. DR of the ischemic angiosome was performed in 37.8% (n = 25), IR in 33.3% (n = 22), and CR in 28.7% (n = 19) of patients. All patients were evaluated for the status of wound healing and limb salvage at 1, 3, 6, and 12 months. The study endpoints were major amputation or death, limb salvage, and ulcer epithelialization at 12 months. **Results:** The mean follow-up was 11.08 ± 3.2, ranging from 3 to 13 months. On Kaplan–Meier analysis, 65% of the patients were diabetic. Ulcer healing rate at 12-month follow-up based on the angiosome hypothesis among groups CR, DR, and IR was 94.7, 66.7, and 57.17%, respectively, with a significant P = 0.013 between CR and DR and a significant $P < 0.001$ between CR and IR. However, on comparing the DR and the IR groups, the mean time to complete ulcer healing was not statistically

significant (P = 0.222). Amputation-free survival rate was 94.7, 75.6, and 72.7% in CR, DR, and IR, respectively. **Conclusion:** If technically feasible, dilation of angiosome target artery plus any other significant tibial artery lesions should be considered. We should orient procedures toward multiple angiosome reopening with better ulcer healing rate and limb salvage.

OR2.5

Target Artery Pathway Is a Fundamental Option for Limb Salvage, Hypothesis or Fact?

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Objectives: Critical limb ischemia rate is rapidly increasing. Target artery pathway delineates how tissue fed by specific direct arterial flow can tremendously affect wound healing and limb salvage. This term was described to provide new information that can be applicable for improving revascularization of ischemic tissue lesions. The concept allows deliberate arterial reconstruction with certain priorities in specific ischemic areas in which target artery pathway is certain rescue vessel. **Methods:** Target artery pathway reperfusion has been used as the first option plan in all critical limb ischemia cases classified as Rutherford V and VI from January 2019 to June 2019; all data were identified and collected. Target artery reperfusion has been used in 30 patients with 35 critical limbs in 6 months. Nondiabetics and end-stage renal disease patients were excluded. All included cases evaluated by Duplex scan confirming target artery pathway lesions. Computed tomographic angiography was done in selected cases when proximal lesion was suspected. All cases were treated by plain balloon angioplasty. **Results:** Target artery pathway revascularization success rate was 68.5% (24 limbs out of 35). Using both antegrade and/or retrograde angioplasty, special cases with poor runoff hybrid retrograde metatarsal angioplasty technique was used. Failure of target artery pathway was in 31.4% (11 cases out of 35). Two cases ended with major amputation. **Conclusion:** Target artery pathway may contribute to a shift in common reperfusion theories. However, collective data still are debatable as there is no strong evidence for angiosomal theories. The evidence is scarce depending on the severity of the target artery pathway disease. Target artery pathway with direct pulsatile flow to the affected tissue is postulated to be valid, especially in diabetics, whose ischemic lesions tend to heal worse than those of nondiabetics.

OR2.6

Endovascular Treatment of Traumatic Blunt Aortic Injury: A Single-Center Experience

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Objectives: An endovascular-first approach is becoming widely accepted for the management of aortic abnormalities, even in traumatic situations. Thoracic endovascular aortic repair (TEVAR) offers the benefit of precision and immediacy in attending to the target lesion compared to conventional surgical options. In the present analysis, we aim to address the utility of TEVAR in traumatic blunt aortic injury (TBAI). **Methods:** The retrospective analysis was conducted in this single-center study of consecutive patients presenting with TBAI. We reviewed 34 consecutive patients treated for TBAI from October 2014 to December 2018 and used the BAI classification to classified them into four grades based on their computed tomographic findings. Treatment modalities were categorized as nonoperative management (NOM), TEVAR, and surgical repair. Medical records and follow-up imaging acquired 1 and 3 months after the procedure were reviewed. **Results:** A total of 42 patients were diagnosed with TBAI. Locations of involvement were as follows: ascending in 3 patients (7%), arch in 2 (4%), isthmus in 24 (57%), and descending in 11 (26%). Thirty-five patients (83.3%) were classified above BAI grade 2. The number of patients for each BAI grade was 7, 11, 15, and 9, respectively. Overall mortality was 21% (9/42), while the mortality directly related to TBAI was 10% (4/37). Nineteen patients (45.2%) underwent TEVAR for TBAI, among which the number of patients per grade was 0, 2, 10, and 7, respectively. Mortality was 0% for the TEVAR group, 19.17% for the Non operative management group, and 40% for the surgical group. Three complications occurred, two of which were endoleaks, and the third, intentional left subclavian artery sealing. **Conclusion:** Our results suggest the safety and efficacy of TEVAR for all grades of TBAI. Additional prospective studies and longitudinal follow-up are needed to confirm its long-term effectiveness.

OR2.7

Safety and Efficacy of Covered Endovascular Reconstruction of the Aortic Bifurcation Technique for Relining of Failed Aortoiliac Stenting: A Single-Center Experience

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Objectives: Endovascular intervention with kissing stenting (KS) is the first-line treatment for complex aortoiliac occlusive disease (AIOD), and it is related to less morbidity and a shorter hospital stay compared with open surgery. Unfortunately, a recent study reported primary patency of KS at a 2-year follow-up (FU) of 79%. The geometry of the KS configuration was previously identified as a risk factor for restenosis and thrombosis. To achieve better long-term patency in 2013, a new technique named the covered endovascular reconstruction of the aortic bifurcation (CERAB) technique was introduced. The results at 1-year FU reported a primary and secondary patency rate of 87% and 95%, respectively. Three-year FU confirmed the good outcome of the CERAB technique for extensive AIOD with a primary, primary-assisted, and secondary patency rates of 82%, 87%, and 97%, respectively. We want to report our single-center experience with CERAB for the relining of failed previous aortoiliac stenting. **Methods:** Between February 2019 and September