

BACKGROUND Improving claudication has been the chief indication of endovascular therapy (EVT) for aortoiliac occlusive disease (AIOD). Because hemodialysis is a major risk factor of developing peripheral artery disease including AIOD, hemodialysis patients with AIOD were frequently treated by EVT. However, the symptoms after EVT for AIOD in hemodialysis patients had not been fully evaluated.

METHODS We performed retrospective analysis by using database of Observational prospective Multicenter registry study on Outcomes of peripheral arterial disease patients treated by Angioplasty Therapy in aortoiliac artery (OMOTENASHI registry). Patients with clinical limb ischemia (Rutherford class 4-6), asymptomatic before EVT (Rutherford class 0) and inadequate data were excluded. We evaluated 30-day Rutherford class and the Walking Impairment Questionnaire (WIQ) score and compared these symptoms in hemodialysis patients with non-hemodialysis patients. We defined WIQ improvement as increased WIQ score greater than 100 points from pre-procedure to 30 days.

RESULTS Total 911 patients (mean age, 72.3 years; 84% male) were analyzed. Between hemodialysis and non-hemodialysis patients, there were no differences in procedure success (99.0% vs 99.0%, $p=1.0$) or occurrence of perioperative complications (2.8% vs 4.2%, $p=0.6$). Hemodialysis patients showed lower WIQ improvement than non-hemodialysis patients (43.9% vs 61.7%, $p=0.01$). After adjustment of baseline risks and lesion complexity, hemodialysis had a negative impact on complete resolution of claudication (Rutherford class 0) at 30 days (odds ratio [OR] 0.49; 95%CI, 0.32-0.76). Furthermore, even in the population with normal ankle-brachial index ($>=0.9$) at 30 days, hemodialysis still had a negative impact on complete resolution of claudication (OR 0.52; 95%CI, 0.29-0.95; $p=0.03$).

CONCLUSION Patients with hemodialysis less achieved complete resolution of claudication after EVT for AIOD than non-hemodialysis patients, regardless of ABI improvement.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

TCT-165

ESRD patients undergoing angioplasty and bypass for CLI have worse outcomes compared to non-ESRD patients: A meta-analysis



Desiree Dawson,¹ Jessica Atkins,¹ Nelson Telles Garcia,¹ George Mina,² Adrian Abreo,¹ Chiranjiv Virk,¹ Paari Dominic¹
¹LSUHSC-Shreveport, Shreveport, Louisiana, United States; ²LSUHSC-Shreveport, Shreveport, United States

BACKGROUND Critical limb ischemia (CLI) is a severe form of PAD. ESRD is associated with increased morbidity and mortality following lower extremity amputation. Therefore, both angioplasty and bypass are used in ESRD patients with CLI; however, the treatment of choice remains controversial. We aimed to evaluate the long-term outcomes of ESRD compared to non-ESRD patients with CLI undergoing angioplasty or bypass.

METHODS PubMed, Web of Science, Cochrane and OVID databases were searched for studies comparing outcomes in ESRD compared to non-ESRD patients undergoing bypass or angioplasty for CLI. Most were retrospective studies, while two were prospective and observational. End points included survival, limb salvage, amputation free survival (AFS), primary and secondary patency at one year post procedure. Pooled odds ratio (OR) with 95% confidence intervals (CI) were calculated using a random effect model.

RESULTS We included 15 studies with a total of 4,462 patients. Survival at 1 year post-angioplasty was not statistically significant for ESRD compared to non-ESRD patients (OR 0.63, 95% CI 0.36-1.09, $p=0.099$); however, survival was favored amongst non-ESRD post-bypass (OR 0.25, 95% CI 0.15-0.45, $p<0.001$). ESRD patients had lower rates of limb salvage post-bypass (OR 0.33, 95% CI 0.21-0.53, $p<0.001$) and post-angioplasty (OR 0.50, 95% CI 0.35-0.72, $p<0.001$). AFS was significantly higher in non-ESRD patients following angioplasty (OR 0.48, 95% CI 0.32-0.71, $p<0.001$) and bypass (OR 0.28, 95% CI 0.16-0.47, $p<0.001$). No significant difference was seen in primary patency post-angioplasty (OR 0.90, 95% CI 0.31-2.61, $p=0.851$) and post-bypass (OR 1.06, 95% CI 0.73-1.53, $p=0.769$) in ESRD compared to non-ESRD patients. Secondary patency was only studied in post-bypass patients, and was not different in ESRD and non-ESRD patients (OR 0.92, 95% CI 0.32-2.67, $p=0.883$).

CONCLUSION At one year post angioplasty and bypass, ESRD patients had a worse outcome with reference to limb salvage, AFS and total survival, when compared to non-ESRD patients. Randomized controlled trials comparing these two modalities of treatment to each

other and to conservative management in ESRD patients with CLI are needed to further clarify.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

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2-Year Natural History of Lower Limbs in Patients With End-stage Renal Disease on Hemodialysis Due to Diabetic Nephropathy; From PREDICT Study



Tamon Kato,¹ Yusuke Miyashita,² Takashi Miura,³ Souitirou Ebisawa,⁴ Tatsuya Saigusa,⁵ Koichiro Kuwahara¹
¹Shinshu university, Matsumoto, Japan; ²shinshu university hospital, Matsumoto, Japan; ³Nagano Municipal Hospital, Nagano, Japan; ⁴Shizuoka University, Nagano, Japan; ⁵Gifu heart center, Gifu, Japan

BACKGROUND End-stage renal disease (ESRD) patients on hemodialysis (HD) due to diabetic nephropathy increase in the world. And HD patients have severe morbidity and mortality. Especially critical limb ischemia (CLI) is one of the cause of major amputation or death. On the other hand abnormal ankle-brachial index (ABI) has been found to be a strong predictor of mortality for HD patients.

METHODS In the (Prospective Registry with the Dialysis patient due to diabetes to prevent the Critical limb ischemia) PREDICT study, a multicenter prospective observational study, we enrolled 173 consecutive patients on HD due to diabetic nephropathy between April 2012 and August 2013 from 13 institutions. We investigated, performance status, ABI, lower limb artery lesions by duplex ultra sound, at every 6 months for 2 years. Limb artery stenosis defined as peak systolic velocity ratios PSV > 200 m/s.

RESULTS The 2-year survival rate was 85.1%. The occurrence of de novo lower limb arteries was 7.6%, and freedom from CLI was 91.5%. However, there was no change in term of ABI between at baseline and 2 year (1.09 ± 0.21 , 1.07 ± 0.32). And low ABI patients' mortality was higher than normal ABI patients' (38.5% vs. 12.9%, $p=0.027$). low ABI patients' occurrence of CLI was higher than normal ABI patients' too (25% vs. 4.3%, $p<0.001$). Cox regression was used to evaluate the association between baseline ABI and mortality, CLI. The low ABI was strong predictor for all cause death and Occurrence CLI (HR2.96; 95% CI, 1.16-7.41 and HR5.65; 95%CI, 1.69-20.3). The duration of HD was not associate any adverse events.

CONCLUSION This study revealed high mortality, and high incidence rate of stroke, CLI in HD patients with diabetic nephropathy. ABI is useful for the prediction of mortality or adverse events for HD patients.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

TCT-167

One-Year Clinical Outcomes in Patients With Chronic Kidney Disease Undergoing Lower Extremity Peripheral Artery Intervention



Houman Khalili,¹ Haekyung Jeon-Slaughter,² Ehrin Armstrong,³ Nicolas W. Shammam,⁴ Khusrow Niazi,⁵ Scott Kinlay,⁶ Mazen Abu-Fadel,⁷ Anand Prasad,⁸ Bala Ramanan,¹ Emmanouil Brilakis⁹

¹University of Texas Southwestern Medical Center; VA North Texas Health Care System, Dallas, Texas, United States; ²University of Texas Southwestern Medical Center, Dallas, Texas, United States; ³University of Colorado, Denver, Colorado, United States; ⁴Midwest Cardiovascular Research Foundation, Davenport, Iowa, United States; ⁵Emory University, Atlanta, Georgia, United States; ⁶VA Boston Healthcare System; Brigham and Women's Hospital, Boston, Massachusetts, United States; ⁷University of Oklahoma HSC, Oklahoma City, Oklahoma, United States; ⁸UT Health San Antonio, San Antonio, Texas, United States; ⁹Minneapolis Heart Institute, UT Southwestern Medical Center/VA North Texas Health Care System, Minneapolis, Minnesota, United States

BACKGROUND Chronic kidney disease (CKD) portends poor outcomes in patients with peripheral artery disease, however outcomes following lower extremity peripheral artery interventions (LE-PAI) have not been well characterized.

METHODS Data from the multicenter Excellence in Peripheral Artery Disease (XLPAD) registry was analyzed. Patient outcomes including all-cause mortality, myocardial infarction (MI), target limb major amputation, and clinically driven repeat target limb revascularization