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IMPACT OF CLINICAL FRAILTY ON VASCULAR FLOW RESERVE AFTER INFRAPOPLITEAL INTERVENTION IN PATIENTS WITH CRITICAL LIMB ISCHEMIA

Poster Contributions
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Background: Frailty increases the risk of adverse outcomes in older people. Patients with critical limb ischemia (CLI) also had several clinical frailties. The aim of this study is to investigate between the physiological parameter in patients with CLI undergoing endovascular treatment (EVT) for isolated infrapopliteal lesions after EVTs and frailty.

Methods: Forty five patients with Rutherford-4 and Rutherford-5 undergoing EVT for isolated infrapopliteal lesions were included in this study prospectively. All lesions were treated by conventional balloon angioplasty alone. After the procedure, a pressure/temperature sensor-tipped guidewire was positioned in the proximal popliteal artery. By using thermodilution technique, mean transit time (Tmn) of a thermodilution-curve was obtained after bolus injections of 3 mL saline at baseline and at intra-arterial papaverine induced maximum hyperemia (30mg). Vascular flow reserve (VFR) was calculated as resting Tmn divided by hyperemic Tmn. Clinical frailty was classified into three groups. Mild-frailty was defined as people are not regularly active beyond routine walking. Moderate-frailty was defined as peoples could walk with walking cane, but did not need any other helps. Severe-frailty was defined as people need help with all outside activities and with keeping house.

Results: VFR was successfully measured immediately after EVTs in all patients without complications. All patients were classified into three groups, Mild-frailty (n=10), moderate-frailty (n=20) and severe-frailty (n=15). No significant differences existed in baseline patients characteristics among three groups. Mild-frailty group included 50% patients with Rutherford-4 and none of patients with Rutherford-4 were observed in severe-frailty group. VFR after EVT was significantly lower in moderate-frailty and severe-frailty than that in mild-frailty (3.6±1.6, 3.5±2.2 and 5.8±2.5 p=0.0154, respectively).

Conclusion: Post-procedural VFR is related to the clinical frailty in patients with CLI. Therefore, advanced lower limb clinical setting might be caused from a poor capability of microvasculature.