

### The meaning of reocclusions in diabetic patients with critical limb ischemia after percutaneous transluminal angioplasty.

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**Aim:** evaluation of primary patency and collateral blood flow in diabetic patients with reocclusions after percutaneous transluminal angioplasty (PTA). **Materials and methods:** Prospective single-center study was conducted involving 165 diabetic patients with critical limb ischemia (CLI) who underwent PTA in 185 limbs. The mean age was 64,1[54-68] years, HbA1c 7,9±1,4%, duration of diabetes 16,5[0,8-43] years, diabetes type 1/2-18/147. Diagnosis of CLI was based on recommendation of TASCII. Patency of lower limb arteries evaluated by duplex ultrasound (DU) and transcutaneous oxygen tension (TcPO<sub>2</sub>) were performed during 3 years follow-up (FU) period. Velocity volume blood flow (Vvol) was evaluated by DU in postocclusive tibial arterial segments: dorsalis pedis artery, plantar artery and peroneal artery separately and summary. Results: The patients were divided into 3 groups according to the arterial patency after PTA: A(62 patients(37,6%)/69(37,3%)limbs)-with clinical reocclusions (CR) after PTA; B(56patients(34%)/66(35,7%)limbs)-with morphological reocclusions (MR) after PTA; C (47patients (28,5%)/50(27%)limbs)-with normal primary patency(NPP). There were in groups A,B,C: [myocardial infarction](#) -6(9,7%)/8(14,3%)/8(17%)cases(p>0,05); [stroke](#): 6(9,7%)/3(5,3%)/6(12,3%)cases; chronic kidney disease (CKD)3-5 in 31(50%)/27(39%)/14(30%)patients (p<0,05, A and B vs.C); tibial arteries occlusions>10 cm: in 54(82%)/54(81,8%)/24(48%)cases; [residual tibial stenoses](#) in 50(72,5%)/46(69,7%)/15(30%) cases (p<0,05); cumulative primary patency in femoropopliteal and tibial segments - 55% and 25%. In patients with CKD 3-5(n=73) were 64(50,4%) cases of CR,39(30,7%) cases of MR and 24(18,9%) cases of NPP (p<0,05). The mean value of Vvol in all patients prior PTA-37,9[28,3;45,4]ml/min, after PTA 3-5 days-91,7[61,3;113,4] ml/min. The mean values of Vvol in patients with CR(A), MR(B) and NPP(C) were 32,9[24,3;49,1], 87,7[55,3;101,4] and 84,6[53,3;104,4] ml/min, (p<0,05), respectively. The mean value of TcPO<sub>2</sub> for all patients prior PTA -14,8[10-19] mmHg, after PTA 3-5 days-35,2[31-38] mmHg, during FU in patients with CR(A), MR(B) and NPP - 15,2[10-21], 34,1[30-39] and 36,2[30-37] mmHg (p<0,05). Conclusion: CKD 3-5 and severe arterial lesions in diabetic patients were associated with residual stenoses and low primary patency after PTA. The high prevalence of clinical reocclusions in diabetic patients with CKD3-5 require frequent dynamic control of arterial patency. Evaluation of Vvol in postocclusive tibial arterial segments by DU and TcPO<sub>2</sub> during FU is very important to make decision reintervention in diabetic patients with reocclusions.