[P39] INDOCYANINE GREEN FLUORESCENCE ANGIOGRAPHY IN DIABETIC PATIENTS WITH PERIPHERAL ARTERIAL DISEASE

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Background and aims: To evaluate diagnostic value of indocyanine green (ICG) angiography (ICGA) with intravenous injection ICG for assessment peripheral blood flow in diabetic patients with peripheral arterial disease (PAD).

Materials and methods: Prospective study included 23 diabetic patients with PAD who underwent percutaneous transluminal angioplasty (PTA) in 23 lower limbs. Diagnosis and treatment of PAD was based on recommendation of IWGDF (Hague, 2015). Transcutaneous oxygen tension (TcpO2) and ICGA were used to assess skin foot perfusion in ulcer site. To perform ICGA, charge-couple device camera, a laser (800 nm) - the SPY system (Novadaq, Bonita Springs, Fla) and intravenous fluorescent ICG were used. Time to maximum intensity (Tmax) in ulcer site during ICGA was recorded. Patency of lower limb arteries was evaluated by duplex ultrasound (DU). The degree of tissue damage was assessed according to Wagner classification.

Results: There were 23 diabetic patients with PAD. The mean age was 66,7,± 9,8 years, HbA1c 8,25±1,53%, diabetes duration 16,5[0,8-43] years, diabetes type 1/2-4/19, man/woman 61/39%. There were comorbidities: arterial hypertension in 93%, myocardial infarction in 18,75%, stroke in 16,6%, dyslipidemia in 70,8%, smoking in anamnesis in 56,25%, chronic kidney disease (stage 3-5) in 23%. Stenosis >50% of vessel diameter and occlusions were located in the iliac/femoral-popliteal axis in 4,34 % (n=1), exclusively in the infrapopliteal axis in 39% cases (n=9), and in both femoral-popliteal and infrapopliteal axis in 57% (n=13). All patients were divided into 2 groups according to the severity of PAD: group A - with mild PAD and nonhealing foot ulcers during 6 weeks despite of standard treatment, TcpO2>25<40 [28; 36] mmHg; group B - 12 patients with critical limb ischemia (CLI) and foot ulcers: TcpO2 < 25 mm Hg [9;21]. Groups A and B were comparable in comorbidities, severity of lower limb arteries obstructions and degree of tissue damage (Wagner 2-3, p-value<0,05).

Conclusion: ICGA is a good tool for visual and rapid quantitative assessment of regional foot perfusion. ICGA may be important additional method in PTA decision-making process in discussible cases. It was pilot study and further clinical investigations are required to refine cut-off of ICGA parameters for detection diabetic patients with insufficient ulcer site perfusion to achieve ulcer healing and clarify the indications for revascularization.