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Endovascular Revascularization in Type 2 Diabetic Patients with Critical Limb Ischemia: Comparison of Direct and Indirect Revascularization According to the Angiosome Model.

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The angiosome model (AM) is commonly used to guide bypass and endovascular procedures in the lower limb. We evaluated whether direct or indirect revascularization, according to AM, may affect clinical outcomes in diabetic patients with critical limb ischemia (CLI) undergoing percutaneous trans-luminal angioplasty (PTA).
We retrospectively evaluated 137 type 2 diabetic patients (M/F: 93/44; age: 72.9±9.2 yrs; BMI: 27.7±8.2 Kg/m^2; diabetes duration: 21.8±13.4 yrs; HbA1c 8.4±1.1%) consecutively admitted to our Department for CLI and foot lesions (FL) who underwent successful lower limb PTA. Patients were divided in 2 groups: direct (n=92, 67%) or indirect (n=45, 33%) depending on whether the flow to the artery directly feeding the site of ulceration, according to AM, was successfully acquired or not. Clinical outcomes (ulcer healing rate, major amputation or death) were compared in the two groups 3 months post PTA.
Healing rate was higher in direct vs indirect group (58% vs 30%, respectively, $p<0.02$). One major post-procedural amputation was necessary in the indirect group (2.2%) and none in the direct one. Mortality rate during the follow-up was 19% in direct vs 31% in indirect group (p=NS).
Our data confirm that direct revascularization of arteries supplying the FL results in greater ulcer healing rate as compared to the indirect one. Thus, AM should be considered in diabetic patients with FL whenever possible.