

Revascularization is important in patients with neuroischemic diabetic ulcers

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Background: Diabetic foot is a serious complication of diabetes and the neuroischaemic diabetic foot is in most cases very difficult to heal without revascularization.

Aim: The aim of our study was to detect the effect of intravascular revascularization procedures on healing of diabetic ulcers of neuroischaemic origin. **Methods:** We enrolled 31 consecutive patients during 3-month interval presenting first diabetic ulceration of neuroischemic origin that required revascularization. There were intravascular procedures (angioplasty, subintimal recanalisation, stenting) performed in all patients (in two cases unsuccessful). The group of 31 patients (7 women) with type 2 diabetes was followed-up for 3 to 5 month after revascularization (6 month study). Mean age of the group was 68.9 ± 9.8 years, mean duration of diabetes 15.0 ± 9.4 years, mean value of glycosylated haemoglobin was 78.0 ± 24.6 mmol/l (IFCC), mean ulcer size 3.45 ± 3.51 cm². Using the method of digital photoplethysmography the ankle-brachial index (ABI) and the toe-brachial systolic pressure index (TSPI) were measured. These values were obtained during the first visit in podiatric office and 2 weeks after revascularization. **Results:** We detected significant improvement of ABI and TSPI after revascularization (Table 1). During the follow-up period 24 patients healed completely, mean healing time was 75.3 ± 19.5 days (see Table 2), 7 patients stayed unhealed (3 unchanged, 4 worsened - 3 of them required amputation). We compared patients with healed and unhealed ulcerations - the only statistically significant difference was lower mean glomerular filtration rate ($p < 0.001$) and lower TBI after revascularization ($p < 0.001$) in unhealed patients. Table 1

	first examination	2 weeks after revascularization	p
ABI	0.64 ± 0.23	0.88 ± 0.30	$p < 0.001$
TSPI	0.25 ± 0.12	0.49 ± 0.16	$p < 0.001$

Table 2

ulcer duration before first visit	142.4 ± 131.2 days (from 10 to 473 days)
time from the first visit to revascularization	22.0 ± 16.7 days (from 3 to 91 days)
time from revascularization to ulcer healing	75.3 ± 19.5 days (from 23 to 111 days)

Conclusion: There is very important to perform revascularization procedures in patients with neuroischemic ulcers as soon as possible to ensure the successful healing.