

PRIZE P2

Efficacy of ABI in screening of peripheral arterial disease in diabetic patient with and without neuropathy

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Background: Peripheral arterial disease (PAD) represents an important diabetes complication with serious consequences on quality of life and patients' survival. Early PAD diagnosis consents to individuate people at high cardiovascular risk and to start early pharmacological treatment of cardiovascular risk factors. In the last years evidence demonstrates a low reliability of ABI in diabetic patients for absence of symptom and for presence of vascular calcifications that elevates pressure at ankle level and deduces that ABI is not a useful screening test for early disease. Emerging evidence suggests a role of peripheral neuropathy on ABI efficacy.

Methods: We analysed 430 limbs in 215 diabetic patients without critical ischaemia over 12 months. Limbs were evaluated for clinically detectable peripheral neuropathy and PAD identified on color-duplex imaging. ABI was performed in all limbs. **Results:** 148 limbs of 430 analysed presented peripheral neuropathy. Patients with neuropathy were older (71 ± 9.7 vs 62 ± 8.2 years, mean \pm SD), presented higher values of HbA1c (8.1 ± 2.1 vs $7.6 \pm 1.8\%$) and had a longer history of diabetes (18 ± 7 vs 14 ± 6 years) than patients without. Prevalence of PAD was 23%, it was present in 40% in neuropathic patients and 14% in non neuropathic patients. However presence of peripheral neuropathy was associated with a significant reduced sensitivity of ABI (61 to 84%), and a significant reduced specificity (79 to 87%) respect to non neuropathic patients

Conclusions: peripheral arterial disease and peripheral neuropathy are common diabetes complications, often associated. Data of this large study confirm a low reliability of ABI determination in presence of neuropathy. So when we perform screening of PAD with ABI we have to look at presence of neuropathy and if present new strategies should be used to detect PAD.