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Feasibility and sensitivity of ankle-pressure and foot oxymetry values for the detection of critical limb ischemia in diabetic patients.

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It is beyond argument the importance of diagnosing CLI, as this allows to identify patients at high risk for limb loss in whom revascularization procedure is of paramount importance. We studied the feasibility and sensitivity of foot transcutaneous oxymetry (TcPO₂) and ankle-pressure (AP) measurements in diagnosing critical limb ischemia (CLI) in 261 diabetic patients admitted to our Foot Centre because of rest pain and/or foot ulcer in the year 2006. In all the 261 patients TcPO₂ was <50 mmHg. AP could not be measured in 109 (41.8%) patients, because of the occlusion of both tibial arteries in 75 (28.7%) patients or the presence of arterial calcifications in 34 (13.0%) patients. In 50 out of the 152 remaining patients ankle-pressure was <70 mmHg, and in 102 was ≥70 mmHg,

Arteriography was performed in all patients and showed stenoses >50% of vessel lumen diameter in all the 261 patients. Major amputation was performed in 16 patients: ankle-pressure was not practicable in 6 patients, was <70 mmHg in 4 of these patients and ≥70 mmHg in 6. TcPO₂ was <30 mmHg in 15 patients and ≥30 mmHg in one patient.

These data confirmed that ankle-pressure could not be measured in more than 40% of diabetic patients with CLI and especially that this measurement even when feasible was not accurate for CLI diagnosis in an high percentage of patients. For diagnosis of CLI in diabetic patients, measurement of foot oxygen tension is essential not only when ankle-pressure is not measurable, but when this value is ≥70 mmHg as well.