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How an asymptomatic peripheral arterial occlusive disease breaked out in a diabetic patient and was treated

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Peripheral vascular disease has very often a silent evolution in diabetic patients, up to the stage of foot wounds. Our case report concerns a 56 years old male patient with a history of more than 40 years of type 1 diabetes, complicated by a proliferative diabetic retinopathy (1979), by peripheral neuropathy (1981), incipiens nephropathy (2000), associated to an autoimmune hypothyroidism, who developed pain and skin lesions on both feet in a short interval, in 2005. Every year, a complete check up was realized, including determination of the ankle-brachial pressure index (ABPI) and Doppler waveform analysis. Waveforms became monophasic for distal artery in 2003-2004 in both legs, without drop of the ABPI because of the mediacalcinosis, visualised on feet radiography since 1979. The patient had no clinical symptoms at that time and was running every week, swimming, riding bicycle. He did not smoke and was treated by insulin, an ACE inhibitor, levothyroxine and aspirin. Mr M. was seen for the first time at mid January 2005 at the diabetic foot consultation. Left first toe was red and painful, without cutaneous lesion. ABPI was measured at 0.81 on right ankle and 0.94 on left ankle. Doppler waveforms analysis pointed out a distal arteriopathy. Transcutaneaous pressure of oxygen ($TcPO_2$) was lowered to 3 mmHg at the basis of right toes and to 2 mmHg at the basis of left toes, improving on both sides at 48 mmHg in the sitting position. After multidisciplinary discussion, it was decided to perform a Duplex scanner and selected lower leg arteriography. A severe distal vascular disease was diagnosed with only one leg artery remaining permeable and affected with stenosis on both sides in the lower third. The patient developed pains in both feet, at walking and at night, relieved when upright. Dorsalis pedis pulses where still palpable. A treatment by ILOMEDINE® (iloprost) 4mg/h for 6 hours per day for 4 weeks IV was started. Left foot evolution was good with pain disappearance, foot warming and $TcPO_2$ values normalization. Right toes remained cold, with a low $TcPO_2$ at 3 mmHg. A crack developed at the basis of the first right toe, then a necrotic area. Six weeks after the end of medical treatment, a very distal by-pass with a reversed saphenous graft between the popliteal artery and the dorsalis pedis artery was done. The necrotic wound healed within a few weeks. Since then, Mr M. was seen every 6 months in the diabetology department and every year by the vascular surgeon with a Duplex scanner. He restarted walking and riding bicycle but could not run anymore because of the risk to compress the by-pass at instep level with a running shoe. Seven years later, both feet are warm and had never again presented pain, colour changes or skin lesions.**Conclusion:** This case report demonstrates the difficulty of peripheral arterial disease screening at a very early stage in diabetic patients, the emergency to treat vascular stenosis when foot wounds appear and the main improvement due to the realization of very distal by-pass in diabetic patients.