

Clinical Vision

Critical Limb Ischemia: EVI 2006

Lanfroi Graziani and Antonio Silvestro

Servizio di Emodinamica Istituto "Clinico Città di Brescia", 25100 Brescia, Italy. www.extrem-es-angioplasty.it

In coronary or in peripheral arteries, re-canalizing arterial chronic occlusions by endovascular techniques implies, in almost all cases, preliminary crossing of the occlusion with guidewires. Once the lesion has been crossed, it then becomes possible to use the most appropriate device for the case, for example, balloon catheter, atherectomy or laser, to complete the intervention. Thus, a correct and efficient technique to cross the occlusion is a key step in restoring blood flow by endovascular interventions.

Despite some reports about recanalization possibilities of occluded small size arteries with sub-intimal techniques the passage of the wire through the "true lumen" is the most desirable way to achieve the recanalization of coronary as well as tibial arteries.

Based on our experience with respect to chronic tibial occlusions, the technique that has been successful, and also feasible in 80% of attempted cases, consists of using a system combining:

- balloon catheters with small guidewire compatibility Bijou™ 0.018", Boston Scientific)
- a high support, polymeric-hydrophilic 0.014" coronary-type wire RT Graphic™ Extra Support (Boston Scientific).

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Alternatively, it is possible to use a 4Fr Bernstein angled catheter over a 0.35" wire. Although this system allows correct crossing of occlusions in the majority of cases in some situations it is not possible to do so with this standard technique. Implications in the case of failure would be sending the patient to undergo traditional bypass surgery or even major amputation. Given the higher morbidity rate associated with both these procedures there are other alternative endovascular alternatives worth exploring in order to cross chronic tibial occlusions.

These are:

- angioplasty of stenotic collaterals to obtain direct flow to the foot
- loop approach (plantar arch recanalization, opposite tibial artery recanalization)
- opposite double-wire technique
- retrograde puncture of the tibial or pedal arteries

In this Special Edition we describe some clinical cases in which these above-stated alternative approaches were successfully adopted

References

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