Are There Negative Consequences To Extreme Or Overly Persistent Endovascular Treatments For CLI
F.Spinelli
F.Stilo

In recent years, infrapopliteal angioplasty has been preferentially used over bypass surgery as first line treatment in patients with CLI, but the outcomes of current management of recurrent disease have not been defined.

The widespread use of Endovascular (EV) treatment has increased the overall limb salvage rate, but a surgical bypass after angioplasty has still been indicated in near 10% of cases, and has been necessary five times more often in patients with Rutherford categories 5 and 6 compared with Rutherford category 4.

However, EV treatment has been usually performed on claudicants, as it is reported both in the largest series and in the national registries, even if scientific evidence concerning the efficacy of EV therapy on claudication is still lacking.

Several reports have shown that the increase of EV interventions for claudication has been accompanied by an increase in the total number of interventions on the same patients, to say, an increased number of repeated secondary interventions for recurrent disease.

This carries a big drawback because, although the complications of PTA are said to be rare and minor, crural interventions may have severe outcomes that cannot be corrected. Furthermore, technical failure rates up to 20% are associated with attempts to recanalize infrapopliteal occlusions, and procedural complication rates of 7% to 17% have been reported, with an early death rate of nearly 2% in a mixed series, indicating that a crural PTA first strategy is not without risk. The case of a secondary EV intervention can be even worse.

Therefore, a secondary treatment after restenosis or occlusion of an endovascularized arterial segment should not be done too hastily, because any kind of revascularization may be the onset of a vicious cycle of repeated interventions that may accelerate the otherwise benign course of PAD.

Actually, an increasing number of patients, starting as claudicants, come to our Institutions in CLI, after that one or more EV treatment have failed and their clinical status has worsened, eventually needing an open bypass. But a bypass after one or more failed Endovascular (EV) interventions has a significantly worse outcome than first line bypass for CLI, as documented by some international series and by the only RCT present up to now, the BASIL Trial.

Therefore, more effort is required from the vascular surgeons to improve the approach and planning of PTA, as an accurate selection of the method of treatment, based on the predictive factors of success or failure could improve the outcomes.

The anatomic outcomes for bypass were superior to outcomes in the primary or the repeat endo groups, despite the worsened anatomic classification and runoff.

Some reports have demonstrated that early failure of endoluminal therapy does not compromise options for surgical bypass, and the amputation level is not altered. However, early failure after isolated endovascular intervention alters the distal target in 30% of early-failure patients if open bypass is planned. Early failure in the primary endo group was associated with early failure in the bypass group. The likely effectors of this observation were presentation with CLI, worsened TASC-II lesion category, and poorer runoff.
Patients who had PTA/S had significantly higher rates of restenosis and recurrent symptoms. Surprisingly, this did not result in more reinterventions, as had been seen previously, if EV has been performed by surgical team. This could have been due to a more conservative attitude toward multiple PTA after early restenosis.

It has become clear that the use of catheters, wires, balloons and stents should not be prerogatives of an isolated radiologist or cardiologist anymore, but with adequate training they should be prevalently used by an integrated team of experts including surgeons. Moreover, the overall clinical responsibility for a CLI patient’s treatment strategy is also legally designated for the vascular surgeon.

An interesting issue under investigation is whether there is a difference in the outcomes after a failed first line EV treatment if a surgical team has performed the previous operation, without pushing the envelope too far, or by very aggressive EV specialists.

When performed by an experienced interventionist who understands the limits of the technique and the subsequent surgical options for revascularization, an attempted or failed PTA for infrainguinal arterial disease can be very often safely treated by a new PTA or even a surgical bypass if the pedal arch, the most frequent landing zone for a distal bypass, has been left intact.

Our data show that the midterm and late results are significantly in favor of the cautious approach, which does not destroy the distal arteries.

Rather than being a presentation against, this report is a plea for the wise and responsible use of a precious and promising endovascular technique.