Routine stent implantation vs. percutaneous transluminal angioplasty in femoropopliteal artery disease: a meta-analysis of randomized controlled trials

We read with great interest the article on routine stent implantation vs. plain balloon angioplasty in femoropopliteal artery obstructions by Kasapis et al.1

The endpoints of interest in the present meta-analysis were immediate technical success, rate of target vessel revascularization (TVR) as well as restenosis rates.

From our perspective, substantial heterogeneity of endpoint definitions in individual trials included in the present meta-analysis clearly hamper both the deduction of meaningful conclusions and the generalizability of results from the present meta-analysis.2–4 There were subtle but crucial differences among included individual studies regarding all three endpoints analysed. Firstly, there was a substantial variability in the definitions of immediate technical success by residual stenosis thresholds between <20 and <50% rendering a direct comparison of results very challenging.2 Second, TVR was defined as ‘repeat revascularization of the same superficial femoropopliteal artery’ (SFA), proximal or distal to, or involving the index lesion, or surgical bypass of the SFA’. In this context, the authors state that ‘TVR, arguably, represents a more robust endpoint than restenosis by itself, as it is a decision driven both by the clinical status and by the angiographic or Doppler evidence of restenosis’. We feel that exactly the contrary is the case. It is obvious that TVR is influenced by many factors such as patient or physician preference or various other circumstances such as local reimbursement policy, especially in patients treated for claudication.2 Thus, in the absence of a specific analysis of target lesion revascularization, providing only TVR rates does not allow to differentiate between restenosis in the index segment (which is attributable to the revascularization method to be scrutinized) and progression of atherosclerosis leading to the need for further revascularization not associated with the index procedure.2–4 Therefore, solely reporting TVR rates does not allow for a precise outcome analysis related to the initially treated target lesion. Third, binary restenosis in the present meta-analysis was defined as ‘a reduction in the luminal diameter of more than 50% on follow-up conventional angiography or restenosis more than 50%, as determined by follow-up duplex ultrasound peak velocity ratio, except for one study that used the cut-off of 70% of angiographic restenosis’. Remarkably, four included studies used angiographic follow-up, four used duplex follow-up, and two studies used both. Unfortunately, the authors fail to describe that the definition of restenosis, however, varied substantially based on duplex criteria applied.2 The peak systolic velocity ratio cut-off for restenosis ranged from 1.5 to ≥2.5 in included trials. In conclusion, we feel that this article does not focus precisely on the clinical utility of modern stents in endovascular revascularization of femoropopliteal arteries. These concerns once again highlight the clear need for uniform reporting standards for the scientific evaluation of various innovative endovascular treatment approaches.1–4

References

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