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INVITED COMMENTARY

Commentary on "Outcomes of Self Expanding Polytetrafluoroethylene Covered Stent versus Bare Metal Stent for Chronic Iliac Artery Occlusion in Matched Cohorts Using Propensity Score Modeling"

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The choice of equipment for endovascular treatment is important not least because of significant economic interests. Therefore, we should be critical when comparing different options before adapting them to the large scale. Prospective randomised controlled trials (RCTs) are the gold standard of gaining knowledge, but do have several well known limitations. Registries and independent, well performed, retrospective, cohort studies, like the current report from Padova by Piazza et al.,[1] play an important role in understanding the differences between the ever changing treatment options and in defining which RCTs are needed. Propensity score analyses add some value to retrospective comparison by forcing the cohorts to be more alike, but do not replace RCTs. Guidelines should be updated regularly as they are inevitably outdated soon after publication, as seems to be the case of the recommendation to prefer open surgery over endovascular for TASC II C and D lesions in the aorto-iliac segment.[2] In particular, the era of hybrid theatres and the possibility of combining open and endovascular surgery have added to the armamentarium of vascular specialists and today even long total infrarenal aorta to groin occlusions may be treated in the hybrid manner.[1,3]

The DEFINE group has set the standards of reporting clinical endpoints in peripheral endovascular revascularisation trials.[4] Piazza et al. have succeeded in meeting many of these criteria, such as separating occlusions from total lesion length and reporting immediate increase in ABI, but have failed in others, such as using an independent core laboratory for imaging evaluation and defining long lesions as longer than 15 cm. Instead, they found clinically sound cutoff values of 3.5 cm for total occlusion and 6 cm for total lesion length. The choice of stent material was left to the individual operator and the groups were inevitably different even after the propensity matching. Furthermore, only self expandable nitinol stents were used; however, sometimes balloon expandable stents with better radial forces may perform better, especially in the common iliac artery and calcified lesions. Also, when choosing between a covered and a bare metal stent the importance of hypogastric artery preservation should not be overlooked.

The COBEST trial is the only RCT on this matter, but included patients without total occlusion as well.[5] The results were in line with the present study showing superior freedom from restenosis, but no difference in stent occlusion for one specific covered stent. It has to be acknowledged that the study received unrestricted grants from Atrium Medical Corporation selling the device that was used in the study and was thus not totally independent. Another RCT underway is the Dutch DISCOVER trial comparing covered stents with balloon expandable stents in the common iliac artery.[6] A retrospective series by Humphries et al.[7] showed quite opposite results and a significantly better patency for bare metal stents.

Taking these limitations into account, the authors have contributed significantly to the knowledge that, in the present day most of these lesions can be treated endovascularly with excellent results and open reconstruction is often left as a bailout strategy for very few patients. Covered stents seem to be a better choice, at least when the risk of rupture is evident. This may be true for long calcified lesions and elderly fragile patients. However, before covered stents are seen as the routine first choice in most of the cases, more high quality data are needed.

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