Cardiovascular Revascularization Medicine 20 (2019) 436

Contents lists available at ScienceDirect

Cardiovascular Revascularization Medicine

Letter to the Editor

Comparison of GuideLiner versus Guideplus catheter in complex percutaneous coronary interventions

Dear Editor;

The adequate back-up support of the guide catheter is a crucial step in complex percutaneous coronary interventions (PCI). GuideLiner catheter provides extra back-up support and coaxial guide engagement for stent delivery in complex PCI [1,2]. In a recent article of your journal, Tsukui et al. [3] compared device performance of the conventional guide extension catheter (GuideLiner, Vascular Solutions Inc., Minneapolis, MN) and the soft guide extension catheter (Guideplus, Nipro, Osaka, Japan). They have demonstrated that device unsuccessful rate was lower in the Guideplus catheter than in the GuideLiner catheter and therefore proposed that Guideplus catheter provided better performance as the guide extension catheter. We would like to provide some comments and contribution to this study.

In this study, the authors retrospectively compared the purpose of the guide extension catheter between the GuideLiner and Guideplus catheter. They mainly used the Guideplus catheter to support the small profile balloon crossing the chronic total occlusion (CTO) or 99% stenosis that the microcatheter could not cross in 19 lesions (20.7%), whereas did not used GuideLiner catheter for this purpose. Although the authors did not use the GuideLiner catheter for this purpose in any case, they concluded that Guideplus catheter provided better performance than GuideLiner catheter as the guide extension catheter. The reason why they did not prefer GuideLiner catheter was explained as follows: "The anchor balloon technique, which is often required to advance the GuideLiner to the lesion, would not be possible for balloon uncrossable CTO. On the other hand, since the Guideplus does not require the anchor balloon in most cases, we can advance the Guideplus to the proximal part of the CTO lesion without anchor balloon technique". We think these factors may cause selection bias. Unlike the authors' opinion, we think that the GuideLiner catheter does not often require the anchor balloon technique. Because GuideLiner catheter has also a unique design including softness and hydrophilic coating. Furthermore, GuideLiner catheter also advances till the proximal part of the CTO lesion without anchor balloon technique. Indeed, in order to make such a conclusion in favor of Guideplus catheter we think that a prospective study that assessed head-to-head comparison of GuideLiner catheter and Guideplus catheter in CTO lesions is needed. However, this study had a retrospective design, and most operators in this study preferred to try the Guideplus rather than the GuideLiner in CTO lesions.

Another important point about this study is that device unsuccessful rate of GuideLiner catheter was 20.4%, whereas unsuccessful rate of Guideplus catheter was 8.7%. Device unsuccessful rate of GuideLiner catheter was quite high in this study compared to the literature [1,2]. The authors have explained this situation as follows: Guideplus catheter is soft and has hydrophilic coating, doesn't require anchor balloon technique and has small profile. However, it is known that GuideLiner catheter has also these properties. In our previous study, the device unsuccessful rate of GuideLiner catheter was only 4.7% in complex coronary lesions [4]. We think that this unexpected higher unsuccessful rate of GuideLiner catheter in this study cannot be explained with just these factors. Which size and which type of GuideLiner catheter was used in this study? In addition, what were the main causes of device unsuccess in the GuideLiner group?

In conclusion, both GuideLiner and Guideplus catheter facilitates stent delivery in complex coronary interventions where conventional techniques have failed. We think larger prospective studies with more participants are required to demonstrate the superiority of one device compared to another device.

Acknowledgements

No acknowledgements.

References

[1] Waterbury TM, Sorajja P, Bell MR, Lennon RJ, Mathew V, Singh M, et al. Experience and complications associated with use of guide extension catheters in percutaneous coronary intervention experience. Catheter Cardiovasc Interv 2016;88:1057–64.
[2] de Man FH, Tandjung K, Hartmann M, Houwelingen GV, Stoel MG, Louwerenburg HW, et al. Usefulness and safety of the GuideLiner catheter to enhance intubation and support of guide catheters: insights from the Twente GuideLiner registry. EuroIntervention 2012;8:336–44.
[3] Tsukui T, Sakakura K, Taniguchi Y, Yamamoto K, Wada H, Momomura SI, et al. Comparison of the device performance between the conventional guide extension catheter and the soft guide extension catheter. Cardiovasc Revasc Med 2019;20:113–9.
[4] Dursun H, Taştan A, Tanrıverdi Z, Özel E, Kaya D. GuideLiner catheter application in complex coronary lesions: experience of two centers. Anatol J Cardiol 2016;16(5):333–9.

Zulkif Tanriverdi*
Fatih Gungoren
Feyzullah Besli
Mustafa Begenc Tascanov
Department of Cardiology, Faculty of Medicine
Harran University, Sanliurfa, Turkey
*Corresponding author at: Department of Cardiology, Faculty of Medicine, Harran University, 63300 Sanliurfa, Turkey
E-mail address: ztverdi@gmail.com

https://doi.org/10.1016/j.carrev.2019.01.032