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Editorial comment

Rest in PEACE?

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EASTBOURNE is a large prospective registry that enrolled more than 2000 all-comer patients with coronary artery disease undergoing a percutaneous coronary intervention using a novel semicompliant sirolimus-coated balloon (Magic Touch, Concept Medical, India).[1] A recent article published in *Revista Española de Cardiología,* reported a substudy of the EASTBOURNE registry (the PEACE study). The study investigated the outcomes of patients presenting with either an acute (ACS) or chronic coronary syndrome (CCS) in both de novo disease (56% of patients) and in-stent restenosis.[2] The authors report a similar rate of target lesion revascularization (primary endpoint, 6.6% vs 5.2%, $P = .258$) and an increased rate of major adverse clinical events (MACE, composite of cardiac death, myocardial infarction, and target lesion revascularization; secondary endpoint, 10.4% vs 8.3%, $P = .009$) at 12 months for patients with an ACS compared with patients with a CCS. Patients with in-stent restenosis (16.1% vs 13.9%, $P = .398$) had a higher rate of MACE than patients with de novo disease (5.9% vs 3.9%, $P = .152$).

How can we put the results of the EASTBOURNE registry and its subgroup analysis PEACE into perspective? The findings that ACS patients have higher MACE rates than patients presenting with CCS and that drug coated balloons (DCB) have similar safety and efficacy for both indications are in line with previous publications.[3,4] However, the performance of the DCB used in this real-world registry is a cause of concern, in light of the recently published randomized trial investigating the aforementioned device (TRANSFORM I; NCT03913832).[5]

According to the current guidelines of the European Society of Cardiology, only in-stent restenosis is mentioned as an indication for the use of DCB.[6] However, treatment with DCB in de novo disease has become more and more established; this is mainly based on the results of several randomized trials, of which BASKET-SMALL 2 is the largest.[7,8] The concept of stent-free percutaneous coronary intervention to eventually achieve beneficial long-term results in de novo disease has attracted wide interest, and specific recommendations for the correct use of DCB were developed.[9] Most DCB are currently coated with paclitaxel; however, other antiproliferative drugs with a better reputation in the interventional community, such as sirolimus, have been tested in both registries and randomized controlled trials for different indications. Of note, no DCB type is similar to the others, and therefore no class effect of this device group can be presumed.[10] Thus, randomized comparisons between different DCB types are important to demonstrate safety and efficacy.

To date, 2 novel sirolimus-coated balloons have been tested against the best-in-class paclitaxel-coated balloon in randomized controlled trials. In a first comparison, the sirolimus-coated SeQuent SCB balloon was investigated against the paclitaxel-coated SeQuent Please Neo balloon (both B. Braun Melsungen AG, Germany) for in-stent restenosis[11] and de novo disease[12,13] showing noninferiority of the 2 devices regarding angiographic endpoints for both indications. In a second comparison, the sirolimus coated Magic Touch balloon was compared with the paclitaxel-coated SeQuent Please Neo balloon in de novo disease. In this trial, the sirolimus coated balloon was inferior to its comparator in terms of angiographic endpoints, while the rates of clinical endpoints were somewhat higher in the sirolimus than the paclitaxel-coated balloon group (11.5% vs 8%, $P = .647$).[5] Of note and in contrast to the randomized controlled trial data, the event rate reported in the PEACE registry was much lower for the sirolimus coated balloon in the de novo indication. However, the same was shown for the comparator in the trial, ie, the paclitaxel-coated balloon, which showed MACE rates of less than 5% after 9 months in a large registry,[14] and MACE rates of 7.5% after 12 months in a large randomized controlled trial.[7] The reason for this finding is unclear and might be due to a selection bias inherent to registries.

In conclusion, the PEACE subgroup analysis reports registry outcome data of a novel sirolimus coated balloon that was recently tested against a standard paclitaxel-coated balloon in a randomized fashion. In the previous randomized controlled comparison, the novel sirolimus-coated balloon was inferior to the comparator paclitaxel-coated balloon regarding angiographic endpoints and showed event rates that were twice as high as in the current registry for de novo disease. While the reason for this discrepancy between the results of the randomized trial and the registry is unclear, we will have to wait for more clinical outcome data before defining the value of this new device. Until then, the novel sirolimus-coated balloon may rest in peace.

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CONFLICTS OF INTEREST

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REFERENCES

1. Cortese B, Testa L, Heang TM, et al. Sirolimus-Coated Balloon in an All-Comer Population of Coronary Artery Disease Patients: The EASTBOURNE Prospective Registry. *JACC Cardiovasc Interv.* 2023;16:1794–1803.
2. Laricchia A, Bossi I, Latini RA, et al.on behalf of the EASTBOURNE investigators. Sirolimus-coated balloon in acute and chronic coronary syndromes: subanalysis of the EASTBOURNE registry. *Rev Esp Cardiol.* 2023. http://dx.doi.org/10.1016/j.rec.2023.11.010.
3. Scheller B, Ohlow MA, Ewen S, et al. Bare metal or drug-eluting stent versus drug-coated balloon in non-ST-elevation myocardial infarction: the randomised PEPCAD NSTEMI trial. *EuroIntervention.* 2020;15:1527–1533.
4. Manger N, Farah A, Ohlow MA, et al. Safety and Efficacy of Drug-Coated Balloons Versus Drug-Eluting Stents in Acute Coronary Syndromes: A Prespecified Analysis of BASKET-SMALL 2. *Circ Cardiovasc Interv.* 2022;15:e011325.
5. Ninomiya K, Serruys PW, Colombo A, et al. A Prospective Randomized Trial Comparing Sirolimus-Coated Balloon With Paclitaxel-Coated Balloon in De Novo Small Vessels. *JACC Cardiovasc Interv.* 2023;16:2884–2896.
6. Neumann FJ, Sousa-Uva M, Ahlsson A, et al. 2018 ESC/EACTS Guidelines on myocardial revascularization. *Eur Heart J.* 2019;40:87–165.
7. Jeger RV, Farah A, Ohlow MA, et al. Drug-coated balloons for small coronary artery disease (BASKET-SMALL 2): an open-label randomised non-inferiority trial. *Lancet.* 2018;392:849–856.
8. Jeger RV, Farah A, Ohlow MA, et al. Long-term efficacy and safety of drug-coated balloons versus drug-eluting stents for small coronary artery disease (BASKET-SMALL 2): 3-year follow-up of a randomised, non-inferiority trial. *Lancet.* 2020;396:1504–1510.
9. Jeger RV, Eccleshall S, Ahmad WAW, et al. Drug-Coated Balloons for Coronary Artery Disease: Third Report of the International DCB Consensus Group. *JACC Cardiovasc Interv.* 2020;13:1391–1402.
10. Bondesson P, Lagerqvist B, James SK, Olivecrona GK, Venetsanos D, Harnek J. Comparison of two drug-eluting balloons: a report from the SCAAR registry. *EuroIntervention.* 2012;8:444–449.
11. Scheller B, Mangner N, Kader MASKA. et al. Combined Analysis of Two Parallel Randomized Trials of Sirolimus-Coated and Paclitaxel-Coated Balloons in Coronary In-Stent Restenosis Lesions. *Circ Cardiovasc Interv.* 2022;15:e012305.
12. Ahmad WAW, Nuruddin AA, Kader MASKA. et al. Treatment of Coronary De Novo Lesions by a Sirolimus- or Paclitaxel-Coated Balloon. *JACC Cardiovasc Interv.* 2022;15:770–779.
13. Scheller B, Mangner N, Jeger RV, et al. Treatment of Coronary De novo Lesions by a Sirolimus or a Paclitaxel Coated Balloon in a European Population [Abstract]. TCT 2023, CA. 2023 October 23-26; San Francisco, United States. Available at: https://www.tctmd.com/slide/treatment-coronary-de-novo-lesions-sirolimus-or-paclitaxel-coated-balloon-european-population. Accessed 16 Jan 2024.
14. Wöhrle J, Zadura M, Möbius-Winkler S, et al. SeQuentPlease World Wide Registry: clinical results of SeQuent please paclitaxel-coated balloon angioplasty in a large-scale, prospective registry study. *J Am Coll Cardiol.* 2012;60:1733–1738.