

Do we believe in drug-coated balloons – a single-center retrospective analysis

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Introduction: Drug-coated balloon (DCB) percutaneous coronary intervention (PCI) is the concept of treating coronary stenosis avoiding stent implantations. This „leave nothing behind“ concept is very attractive but still it is reserved for the minority of patients' scenarios. While in small vessels (<2.75 mm) de novo lesions DCB were non inferior to second generation DES, in large vessels (>3.0mm) randomized data are lacking but there is growing evidence for the efficacy and safety. Also, there is little data favoring treating side branch bifurcation lesions while there is no data to support DCB-only concept in true bifurcation lesions.¹⁻³

Patients and Methods: We analyzed data from the hospital information system and web-based database (CAD register) of patients who underwent urgent and elective PCI procedure in the General Hospital "Dr. Josip Benčević" in the last 3 years. CAD register was created in 2019 and contains patient and procedure specific information. We analyzed percentage of all DCB interventions, in stent restenosis (ISR) – de novo lesions ratio, and subanalysis of chronic vs acute coronary syndromes (CCS vs ACS) de novo lesions.

Results: In 2020 there were 29 (5.6%) DCB interventions of total PCI procedures, with 8 (27.6%) de novo DCB-only interventions. In 2021 we performed 48 (7.9%) DCB interventions and 26 (54.2%) de novo DCB-only interventions, while in 2022 we performed 78 (12.6%) and 44 (56.4%) de novo DCB-only interventions. Most interventions were for acute coronary events 58 (74.3%), with TIMI 3 flow established in culprit vessels in more than 85% of cases, mostly in small vessels.

Conclusion: Use of the DCB only strategy for de novo lesions has tripled overall in 3 years at our institution. According to our experience, DCB-only PCI is safe and efficient strategy for treating variety of patients including STEMI. The advancements of DCB technologies facilitated the treatment of DCB only de novo lesions. Future studies are needed to evaluate the efficacy and safety DCB in large vessel interventions especially in diffuse atherosclerotic disease and bifurcations.

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LITERATURE

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