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STATE-OF-THE-ART REVIEW

Drug-Coated Balloons for Coronary Artery Disease

Third Report of the *International DCB Consensus Group*

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The following are key points to remember about this state-of-the-art review and international consensus statement on drug-coated balloons for coronary artery disease:

1. The balloon surface drug of choice is paclitaxel; typical dosage is 2-3.5 mcg/mm².
2. Preparation of the lesion with predilation or other techniques is necessary to achieve optimal results for drug-coated balloons.
3. Fractional flow reserve measurement may be useful with residual dissections or limited luminal gain after predilation. A fractional flow reserve value of ≥0.80 may be appropriate.

4. Manufacturer's recommendations should be observed regarding maximum transit time in the patient and minimum inflation time. Most would not recommend re-insertion.

5. The prepared lesion plus ≥2 mm proximally or distally should be covered by drug-coated balloons.

6. Drug-coated balloons can benefit patients with in-stent restenosis (ISR), according to Class IA level of evidence, of either bare-metal stent or drug-eluting stent (DES). Good candidates for drug-coated balloons may include those with a first ISR, with multiple previous stent layers, in need of a shorter dual antiplatelet therapy duration, or with relevant side branches emerging from ISR. Intravascular ultrasound may be useful in detecting and planning correction for mechanical causes of ISR.

7. In small vessel (≤2.75 mm or <3.0 mm) *de novo* lesions, drug-coated balloons were non-inferior to second-generation DES in 2 recent large and well-designed trials.

8. In large vessel (≥3.0 mm) *de novo* lesions, drug-coated balloons appear safe and effective, but randomized data in comparison with DES are lacking.

9. In bifurcation lesions, drug-coated balloons can be used in the main and side branches or in the side branch alone. Current European Society of Cardiology guidelines recommend DES in the main branch and provisional (if needed) stenting in the side branch; side branch drug-coated balloons may be preferable to angioplasty.

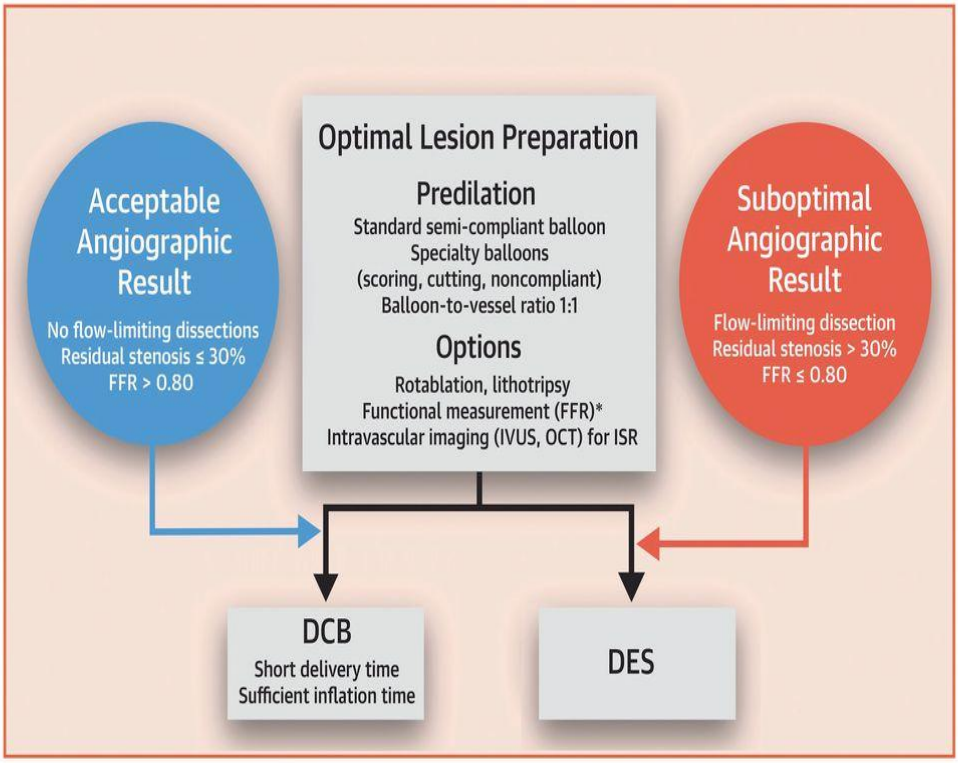
10. Diabetic patients have higher complication rates following coronary intervention. Drug-coated balloons may be a favorable alternative to DES in diabetic patients, but further study is needed.

11. In high-bleeding-risk patients, drug-coated balloons may be advantageous. The recommended duration of dual antiplatelet therapy following drug-coated balloons-only strategy in *de novo* vessels is 4 weeks

12. In acute coronary syndromes, limited data are available. Two recent trials, PEPCADNSTEMI (Bare Metal Stent Versus Drug Coated Balloon With Provisional Stenting in Non-ST-Elevation Myocardial Infarction) and REVELATION (Drug-coated Balloon Versus Drug-eluting Stent in Acute Myocardial Infarction), found drug-coated balloons to be non-inferior to stenting. Drug-coated balloons should be avoided with obvious angiographic thrombus.

13. No concerns regarding increased mortality with paclitaxel-coated coronary balloons have been raised, despite a meta-analysis suggesting increased mortality in patients treated with paclitaxel-coated stents/balloons for peripheral artery disease. Two recent meta-analyses of drug-coated balloons for coronary ISR and another for *de novo*stenosis showed no increase in 2-year mortality rates; decreased mortality was observed at 3 years compared with DES.

CENTRAL ILLUSTRATION: DCB-Only Strategy for PCI in Coronary Artery Disease



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