

DRUG-COATED BALLOON : A SUPERB ALTERNATIVE TO CORONARY STENTS

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The evolution of interventional cardiology has witnessed a paradigm shift in the management of coronary artery disease (CAD). Among the arsenal of interventions, coronary stents have been a cornerstone, providing mechanical support and reducing restenosis rates. However, concerns persist regarding stent-related complications such as in-stent restenosis, late stent thrombosis & hazards of bleeding due to use of long dual antiplatelet (DAPT). In recent years, the emergence of drug-coated balloon (DCB) has introduced a promising alternative approach for the treatment of CAD. DCB offer a unique mechanism of action, delivering antiproliferative drugs directly to the vessel wall without leaving a permanent implant. This characteristic eliminates concerns related to stent thrombosis and the need for long-term DAPT. Furthermore, DCB preserve vessel anatomy and vasomotion, potentially enabling future revascularization options. Clinical trials and real-world data have demonstrated the efficacy of DCB in various coronary lesions, including small vessels and in-stent restenosis. This abstract provides an overview of the advantages of DCB over traditional coronary stents and highlights key clinical evidence supporting their use. Additionally, it discusses the economic implications and patient-centered outcomes associated with DCB therapy. Despite these advantages, challenges such as device delivery and optimal drug formulations remain areas of ongoing research and development. In conclusion, DCB represent a superb alternative to coronary stents in selected patients with CAD, offering comparable efficacy while mitigating stent & antiplatelet related complications. As technology continues to advance, further refinements in DCB design and drug delivery systems hold the potential to revolutionize the landscape of coronary intervention, providing safer and more effective treatment options for patients with CAD.

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