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Titel des Beitrags: Pathological aspects of bioresorbable stent implantation.

Abstract: The treatment of obstructive coronary artery disease has been revolutionised by the advent of drug-eluting stent therapy. However, concerns remain about complications late after stent implantation including late stent thrombosis, hypersensitivity reactions and neoatherosclerosis. In this respect, the introduction of fully bioresorbable stents (BRS)--which resorb over time and leave the arterial wall free of any metal constraints--represents a potentially important disruptive technology. However, although the concept is intuitively attractive, a thorough understanding of the histopathological changes seen after BRS implantation and an appreciation of comparative changes versus existing metal stent technologies are vital to guide BRS clinical usage. In this respect, translational investigation of polymer chemistry, biomedical engineering, as well as in vitro and in vivo testing in animal models is an important undertaking. This article will review the pathological aspects of BRS implantation with a focus on acute and chronic vascular reactions derived from preclinical animal studies, including insights from in vivo imaging. Finally, potential future directions of this novel therapeutic approach will be discussed.

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