

عنوان مقاله:

Effects of Different Stent Designs on the Outcome after Balloon-Expandable Stenting

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خلاصه مقاله:

Stenting is one of the most important methods to treat atherosclerosis. Due to its simplicity and efficiency, the use of coronary stents in interventional procedures has rapidly increased and different stent designs have been introduced in the market. In order to select the most appropriate stent design, it is necessary to analyze and compare the mechanical behavior of different types of stent. In this paper, finite element method is used for analyzing the behavior of stents. Two commercially available stents (the Palmaz-Schatz and SY stents) are modeled and their behavior during the deployment is compared in terms of stress distribution, radial gain and dogboning. Moreover, the effect of stent design on the restenosis rate is investigated by comparing the stress distribution in the arteries. According to the findings, the possibility of restenosis is lower for SY stent in comparison with Palmaz-Schatz stent which is in good agreement with clinical results.

کلمات کلیدی:

Numerical model, Coronary stent, Balloon, Plaque, Vessel

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