

عنوان مقاله:

Drug release from a two-layer stent coating considering the viscoelastic property of the arterial wall : a mathematical and numerical study

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نویسندگان:

Ebrahim Azhdari - Department of Mathematics, Salman Farsi University of Kazerun, Iran

Aram Emami - Department of Mathematics, Salman Farsi University of Kazerun, Iran

خلاصه مقاله:

Atherosclerosis is one of the most common diseases in the world. Medication with metal stents plays an important role in treating this disease. There are many models for delivering drugs from stents to the arterial wall. This paper presents a model that describes drug delivery from the stent coating layers to the arterial wall tissue. This model complements the previous models by considering the mechanical properties of the arterial wall tissue, which changes due to atherosclerosis and improves results for designing stents. The stability behavior of the model is analyzed, and a number of numerical results are provided with explanations. A comparison between numerical and experimental results, which examine a more accurate match between the in vivo and in vitro, is shown.

کلمات کلیدی:

Stent coating, Viscoelastic, Mathematical model, Numerical simulation

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