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The influence of aneurysm feature on coiling treatment of internal carotid artery aneurysms: Numerical and statistical study

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Abstract

The geometrical aspects of the saccular aneurysm are an important factor for the rupture of aneurysm. In this paper, the effects of the sac centerline on the aneurysm rupture are fully investigated. Our attention is to disclose the important factors related to aneurysm rupture in different time instants. CFD method is applied for the analysis of WSS, OSI, pressure and velocity inside the saccular aneurysm with different sac centerlines. Our results also show that the coiling technique could sufficiently decrease the risk of rupture since decreasing the coil porosity (increasing the coil permeability) would increase the OSI and pressure and decrease WSS and blood velocity inside the aneurysm sac.

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International Journal of Modern Physics C, Vol. 34, No. 10

Impacts of coiling technique on hemodynamic of the MCA aneurysms: Computational study

Jieping Ding and Peiman Valipour

International Journal of Modern Physics C, Vol. 35, No. 05

Hemodynamic effects of the blood flow on aneurysm rupture risk: Geometrical aspects

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