

学位論文の要旨

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<p data-bbox="183 539 373 568">主論文の題名</p> <p data-bbox="183 651 1410 730">Low Wall Shear Stress Is Independently Associated With the Rupture Status of Middle Cerebral Artery Aneurysms.</p> <p data-bbox="183 819 373 848">主論文の要旨</p> <p data-bbox="183 931 1410 1592">We determined which hemodynamic parameter independently characterizes the rupture status of middle cerebral artery (MCA) aneurysms using computational fluid dynamics analysis. In 106 patient-specific geometries of MCA aneurysms (43 ruptured, 63 unruptured), morphological and hemodynamic parameters were compared between the ruptured and unruptured groups. Multivariate logistic regression analysis was performed to determine parameters that independently characterized the rupture status of MCA aneurysms. Univariate analyses showed that the aspect ratio, wall shear stress (WSS), normalized WSS, oscillatory shear index, WSS gradient, and aneurysm-formation index were significant parameters. The size of the aneurysmal dome and the gradient oscillatory number were not significantly different between the 2 groups. With multivariate analyses, only lower WSS was significantly associated with the rupture status of MCA aneurysms. WSS may be the most reliable parameter characterizing the rupture status of MCA aneurysms.</p>			