学 位 論 文 の 要 旨

所　　属	三重大学大学院医学系研究科 生命医科学専攻　神経感覚医学講座	氏　　名	濵田　和秀

主論文の題名：

Simple immersion of filter devices into an urokinase solution prevents fibrin net formation during carotid artery stenting

主論文の要旨

Slow-flow phenomenon is frequently observed during carotid artery stenting (CAS) with a filter embolic protection device. It results in technical difficulties and can lead to adverse neurological events. Flow impairment is thought to be caused by plaque entrapped by the filter and/or blood coagulation on the filter. Characteristics of heparin- or urokinase-treated polyurethanes were analyzed by surface plasmon resonance, and the fibrinolytic activity of the urokinase-treated filter of Angioguard XP was estimated by the fibrin plate assay. A filter membrane of Angioguard XP protection device was treated with a heparin or urokinase solution. In clinical studies, six and nine patients were treated by CAS using Angioguard XP modified with heparin and urokinase, respectively. Filter membranes were examined by scanning electron microscopy (SEM). From in vitro studies, it appeared that urokinase adsorbed and remained on the Angioguard XP filter, and its fibrinolytic activity was demonstrated even after washing with saline; heparin, however, was easily washed out from the surface. From clinical study, some filter pores were obstructed in all six patients in the heparin group and in three patients in the urokinase group. Fibrin net was found on the filter in five of six patients in the heparin group and in one of nine patients in the urokinase group. Treatment of an Angioguard XP filter with a urokinase solution is effective in preventing pore occlusion and may reduce occurrence of the slow-flow phenomenon.

（注）２，０００字以内にまとめて記入すること。