

# 学 位 論 文 の 要 旨

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<p>主論文の題名：</p> <p>Cerebral Ischemic Lesions Detected With Diffusion-Weighted Magnetic Resonance Imaging After Carotid Artery Stenting: Comparison of Several Anti-embolic Protection Devices</p> <p>主論文の要旨</p> <p><b>Background and objectives</b></p> <p>Percutaneous carotid angioplasty and carotid artery stenting (CAS) has the potential of being minimally invasive, less traumatic, and safer in patients with a high surgical risk, resulting in shorter hospital stays. However, CAS does carry inherent risks of morbidity and mortality. Distal embolism is an important periprocedural technical complication with carotid angioplasty and carotid artery stenting (CAS). We evaluated the safety and efficacy of protection devices used during CAS by detecting new cerebral ischemic lesions using diffusion-weighted magnetic resonance imaging.</p> <p><b>Study design</b></p> <p>A total of 122 patients underwent 128 protected CAS procedures for treatment of occlusive carotid artery diseases at our institution between January 2001 and December 2005. Of these, 27 patients with incomplete data, who were lost to follow up or who were evaluated with a different MR imaging technique (5 mm slice thickness and 1 mm inter-slice gap) were excluded. The remaining 95 patients who underwent 98 CAS procedures: 34 using single PercuSurge GuardWire, 31 using double balloon protection, 15 using proximal flow reverse protection devices, 14 using Naviballoon, and 4 using filter anti-embolic devices. Diffusion-weighted imaging was performed preoperatively and postoperatively to evaluate the presence of any new embolic cerebral lesions. All patients underwent complete neurological examination before, during, immediately after, and at 30 days, 3 months, and 6 months to 1 year after the intervention. The transfemoral approach is the standard for percutaneous stenting, but the transbrachial approach was used in 2 patients, and direct carotid puncture was employed in 4 patients due to severe atherosclerosis or tortuosity of the blood vessels. MR imaging was performed before and after the procedures within 4 days using a 1.5 T MR imaging scanner (Signa Horizon Echospeed CV). MR imaging sequences included fast fluid-attenuated inversion recovery (FLAIR) and diffusion-weighted imaging.</p>			

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