

IV thrombolysis for stroke with carotid dissection

Georgiadis et al. analyzed 33 cases and concluded that IV thrombolysis in acute stroke due to spontaneous carotid artery dissection was safe: there were no new local signs, subarachnoid hemorrhage, pseudoaneurysm formation, or vessel rupture.

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Generalized arteriopathy in spontaneous cervical artery dissection (sCAD)

Multiple nearly simultaneous sCAD in about 10% of cases suggests a generalized arteriopathy in sCAD patients. The study of superficial temporal artery biopsies by Völker et al. demonstrated pathologic changes on electron microscopy in sCAD but not in control specimens.

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Insights into pathogenesis and treatment of cervical artery dissection

Commentary by Tobias Brandt, MD, and Caspar Grond-Ginsbach, PhD

CAD is a leading cause of stroke in younger patients. Aggressive treatment to prevent severe consequences is often indicated. Georgiadis et al. show in this first substantial multicenter study that systemic thrombolysis is both feasible and safe in acute stroke caused by CAD. Although uncontrolled, and having limited vascular data, clinical follow-up data suggest good outcome after thrombolysis without enhanced rate of subarachnoid hemorrhage or vessel wall hematoma enlargement. Prospective thrombolytic intervention studies are now needed.

The pathogenesis of sCAD has long been a matter for speculation. Dissection frequently develops spontaneously in otherwise healthy individuals without risk factors. Connective tissue abnormalities in dermal biopsies of CAD patients pointed to a structural defect of the arterial wall as a predisposition.¹ The study by Völker et al. is a new approach suggesting “that the majority of sCADs may not be caused by an

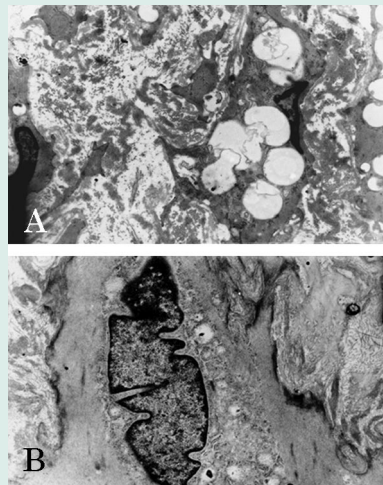


Figure. A) Typical myocyte with excessive vacuolations from tunica media of anterior cerebral artery (ACI) from a patient with CAD and B) myocyte tunica media of ACI from a control subject. (EM: $\times 15\ 000$)

intimal tear, but by a hemorrhage in the arterial wall itself, e.g., originating from the vasa vasorum.” Moreover, they find “extensive vacuolization” of smooth muscle cells in superficial temporal arteries. One limitation of this study is that no cervical arteries were examined; here, connective

tissue is more readily analyzed. Moreover, biopsies were performed in patients on anticoagulants whereas some of the controls were not.

The signs of segmental mediolytic arteriopathy described by the authors, however, bring further evidence for a systemic arteriopathy as found in the very few postmortem or endarterectomy studies² and in own ultrastructural studies of the cervical arteries themselves (figure).³

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