Recurrent events after a cervical artery dissection

Touzé et al. studied a historical cohort of 459 patients with a cervical artery dissection. After a follow-up of 31 months, they found a very low risk of stroke and recurrent dissection and no relation between ischemic events and chronic arterial lesions.

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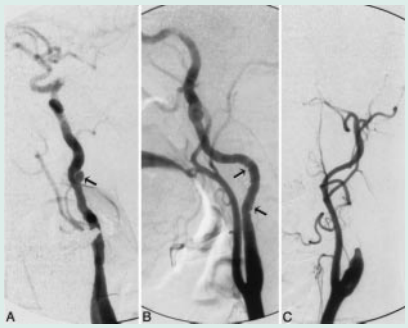
Commentary by Bahram Mokri, MD

Although the majority of patients with internal carotid artery (ICA) and vertebral artery (VA) dissections develop focal cerebral ischemic manifestations, a substantial minority do not present with manifestations; approximately 35% of patients with ICA dissections and 20% of patients with VA dissections do not develop TIA or strokes.[1] Furthermore, dissections of ICA and VA may be monosymptomatic, minimally symptomatic, or even asymptomatic and thus may go undiagnosed. At least 12% of such dissections are asymptomatic, and likely the actual figure is even higher. Studies based on retrieval of patients from stroke banks could potentially bypass a substantial group of patients with cervical artery dissections. The recurrence of dissection in a previously dissected and healed cervical artery is considered uncommon. A second dissection, however, occurs often in those cervical arteries not previously involved by dissection. Even then, the rate of recurrence manifesting as stroke, TIA, or other symptoms is low.[2,3] The 24-center study by Touzé reporting a large number of patients with a mean follow-up of 31 months has revealed a recurrence rate of only 0.3% per year for stroke and 0.6% for TIA. In another study (that included all cases of spontaneous ICA and VA dissections and their recurrences, whether presenting as focal cerebral ischemic events or otherwise), during the first month after the dissection, the rate of recurrence was higher, approaching 2% for the first month.[3] Subsequently, the frequency was much less (1% per year for all age groups). With advance in age, patients may become less susceptible to recurrent dissection. One study demonstrated recurrence of dissection at 10 years to be about 12% for all age groups, while recurrence rate for patients younger than 45 years (the mean age of the group) was 17%, and for those older than 45 years was only 6%.[3] Cervical artery dissection occurs substantially less frequently in the elderly than the young and the middle-aged. Whether the development of atherosclerotic process renders the cervical arteries less susceptible to the development of dissections is not known.



(A) Right ICA dissecting aneurysm (arrow). (B) Projection of the same vessel at a different angle shows changes of fibromuscular dysplasia (arrows). (C) Left ICA of the same patient demonstrating a tapered occlusion related to a previous dissection.

A disorder of arterial wall, perhaps coupled with trivial trauma, may play an etiologic role in many patients with spontaneous ICA and VA dissections. Some of the patients with known genetic disorders of collagen or elastin have developed cervical artery dissections. Ultrastructural studies have demonstrated abnormalities of connective tissue matrix in a substantial percentage of patients with ICA and VA dissections.[4] Familial occurrence of cervical artery dissections, familial occurrence of ICA dissections and intracranial aneurysm, higher incidence of intracranial aneurysms in patients with ICA dissections, as well as multivessel dissections all point to the presence of an underlying arterial disorder. Dissections tend to occur in patients with underlying arterial disease or those with family history of arterial dissections.

References

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