Local Symptoms and Recanalization in Spontaneous Carotid Artery Dissection

We congratulate Nedeltchev and coworkers for their meritorious report1 on recanalization of spontaneous internal carotid artery dissection. The strengths of this work are a fairly large patient population compared with most previous reports and the repeated ultrasound examinations of the vasculature at 1, 3, 6, and 12 months. Recanalization always occurred within 6 months, but not later. We, having similar experience, currently repeat vascular imaging only at 6 months.

Nedeltchev et al discuss that they did not detect any beneficial effect of complete recanalization and refer to 2 articles that do not directly support their view; of these, one is a small study on 60 cervical artery dissection patients treated with anticoagulants2 and the second3 is a review in Spanish that discusses the merits of thrombolysis in acute ischemic stroke. In patients with carotid artery dissection, ischemic stroke may occur either by artery-to-artery embolism or by hemodynamic mechanisms. The risk for embolism is substantially reduced with timely anticoagulation, and prevention of hemodynamic infarction may not require complete recanalization, but modest recanalization may establish enough blood flow. Although most of their patients may have had late recanalization, still it would be interesting to see if different levels of recanalization correlated with clinical outcome. We recently showed that patients in whom complete recanalization occurred within 6 months from symptom onset returned to work more often.4

Nedeltchev et al state in their “Results” that presentation with local symptoms and signs only increased the likelihood of recanalization. Local symptoms included headache, neck pain, pulsatile tinnitus, Horner syndrome, and cranial nerve palsy, all ipsilateral to the spontaneous internal carotid artery dissection. They suggest that an outward-expanding hematoma could explain the association of local symptoms and the tendency to recanalize, whereas inward expansion of the artery wall would cause less local symptoms and a tendency not to recanalize. This interpretation about the location of the hematoma versus recanalization is logical but speculative and requires confirmation by imaging data. Their series and others indicate that initial stenosis only is associated with higher rates of recanalization and less strokes compared with initial occlusion. Emphasizing the presence of local symptoms and signs may lead to false conclusions about their prognostic significance. Patients who sustain less severe strokes, or no brain ischemia at all, are more likely to spontaneously report these minor symptoms and most of them, indeed, arrive to medical attention particularly with those complaints. On the other hand, local symptoms such as pain and tinnitus experienced by patients with more severe strokes are more likely to be overlooked and underestimated or cannot be reported at all due to barriers such as aphasia, inattention, or depressed consciousness.

In the “Results,” the authors write that there were 79 patients who presented with local symptoms only that were associated with a high rate of complete recanalization. However, several typographic errors in Table 3 obscure this finding, and the patient numbers used for statistical analysis may be erroneous. Surprisingly, migraine was found in 30 patients, a figure much lower than expected. On the other hand, we fully agree with the authors on the use of Rankin 0 to 1 as a favorable outcome.5 A patient with a Rankin score of 2 will be independent in daily life but will not return to his or her work. Patients with carotid artery dissection are mostly young to middle-aged adults and working ability after carotid artery dissection is critical for most of them.

Regarding the risks and benefits of anticoagulation and antiplatelet therapies6 and for many other unanswered questions in the carotid artery dissection field, multicenter collaborations with large numbers of patients such as the Cervical Artery Dissection In Ischemic Stroke Patients (CADISP) network7 are needed instead of overinterpreting results from small patient series.

Disclosures

None.

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