

# Urgent Carotid Revascularization: The Gap Between Guidelines and Reality

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Patients with carotid stenosis who present with transient ischemic attack (TIA) or minor strokes represent an opportunity to preventing major disabling stroke. This patient group is in danger of imminent neurological disability that can be stopped with timely revascularization. The pooled analysis from the North American Symptomatic Carotid Endarterectomy Trial and the European Carotid Surgery Trial showed a strong interaction between the expected benefit from carotid endarterectomy (CEA) and the time interval between symptoms' onset to CEA.<sup>1</sup> The number needed to treat to prevent one stroke in five years for patients with severe carotid stenosis was 5 for those randomized within two weeks after symptoms' onset versus 125 if randomized after more than 12 weeks. Therefore, the Canadian Best Practice Recommendations are decisive in recommending CEA within two weeks of the index event in stable patients.

The study by Dyer et al brings to attention the dissociation between current guidelines and actual clinical practice<sup>2</sup>. It also identifies the stages where delay was encountered in the process of referring those patients until CEA is actually performed. The investigators describe a median wait time from symptom onset to CEA of 111 days with only three patients (4%) undergoing CEA within two weeks from symptoms. Despite the patients presenting early to medical attention, delay was identified from the time of initial evaluation by the general practitioner or emergency physician until specialist assessment (median 26 and 19 days, respectively). There was a median delay of over two weeks from the assessment by the specialist until the radiological confirmation of carotid stenosis and 44 days from the referral receipt by a neurosurgeon until the date of CEA. It is unknown how many of those patients suffered strokes during these waiting times.

Similar delays have been reported in Canadian and international settings.<sup>3,4</sup> During these waiting periods, the risk of recurrent stroke has been reported to be as high as 33%.<sup>5</sup> These figures call for immediate action on multiple levels to improve the wait times. Family physicians need to refer patients suspected to harbor recently symptomatic carotid disease on an expedited basis. Emergency physicians are in a position to screen high-risk patients using readily available and accurate computed tomographic angiography. There are tools available to stratify the risk of stroke after TIA and the likelihood of carotid stenosis as the underlying etiology,<sup>6,7</sup> and these can help triage cases for more efficient use of resources. While hospital admission to expedite surgical assessment might not be practical in some Canadian centres, best medical therapy can be instituted in patients with confirmed or high likelihood of carotid stenosis until they are assessed by specialists and referred for urgent carotid artery surgery or stenting. Dedicated rapid response TIA and minor stroke clinics that offer quick investigation and management of such patients have been shown to significantly

reduce waiting times and facilitate the completion of CEA with a median wait time as low as six days from index event.<sup>8</sup> Such clinics can be organized in accordance with the schedule of a surgeon or interventional radiologist to offer flexible and immediate consultation and treatment planning.

While allocation for such programs and interventions can stretch existing healthcare resources, policy makers should be made aware not only of the beneficial clinical impact of such initiatives but also of their enormous potential for cost saving. With an average annual cost of care for disabling stroke in Canada of almost \$110,000<sup>9</sup> there is little justification for the status quo. Stroke can be prevented if we act quicker - enough said!

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