

Eur J Vasc Endovasc Surg 32, 236–237 (2006)

doi:10.1016/j.ejvs.2006.04.007, available online at <http://www.sciencedirect.com> on SCIENCE @ DIRECT®

INVITED COMMENTARY

Early Carotid Endarterectomy after Ischemic Stroke: The Results of a Prospective Multicenter Italian Study

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At first sight, interpretation of this study will probably reflect a number of pre-existing prejudices held, by you, the reader. Firstly, a cohort of 96 patients (i.e. averaging only 7 patients per centre over a two year period) is unlikely to reflect practice in the 'real world'. Might the results simply reflect outcomes in a highly-selected subgroup that would otherwise have done well without surgery. Second, the majority (55%) underwent CEA within 1 day of onset of symptoms, a time-frame which will, inevitably, include patients with transient ischaemic attack (TIA) together with patients who would (if time had elapsed) be found to have suffered a stroke. Surely, you might argue, the two should be differentiated? Third, might the 30-day death/stroke rate of 7.3% be considered 'too high' in the context of modern carotid surgical practice and, therefore, mitigate towards a more conservative approach, i.e. best medical therapy and deferred CEA. Finally, would MR not have been preferable to CT in more reliably diagnosing the presence of early infarction prior to surgery?

What of these debating points? True, this has to be a very highly selected cohort of patients. In a previous study,¹ four of the five authors on the current paper reported that out of a cohort of 756 stroke patients presenting to their hospital over a two year period, only 4.4% were considered suitable for emergency/early carotid endarterectomy (CEA). True, the cohort had to include an unknown combination of TIA and minor stroke patients, but (scientifically heretical as it may sound) emerging evidence suggests that such

a differentiation might not really matter? True, they selected patients with minor stroke (clinically) or those with smaller infarcts (on CT or MRI) and excluded those with more significant neurological deficits and infarcts. However, it is well known that a proportion of TIA patients will have an area of infarction on CT scanning, while some patients whose neurological symptoms persist beyond 24 hours will not have any objective evidence of brain injury on delayed functional imaging.

My real interest in this study (and I accept there are important methodological issues regarding its generalisability), was putting the aims, methods and results in context with emerging evidence on how we should best be managing patients with TIA and minor stroke. Like you, I was taught that we should treat patients with TIA or minor stroke 'as soon as possible' because they had a 4–5% risk of stroke within the next 30-days. Accordingly, national guidelines tend to recommend referral and investigation within 14 days of onset but, in reality (and especially in the UK) this is rarely achieved. Weeks, sometimes months can elapse before CEA is performed, by which time many patients will have suffered their stroke.

However, the *very early* risks of stroke may be significantly higher than we have previously accepted. The Oxford Vascular Study Group² recently undertook a prospective study of patients presenting with TIA or minor stroke. They observed that for TIA patients, the 7 day, 30 day and 3 month risks of stroke were 8%, 12% and 17% respectively. Parallel data for patients presenting with minor stroke (NIH stroke score < 3) were 12%, 15% and 19%. These stroke risks (8–12% at 7 days and 11–15% at 30 days) are much higher than we have previously accepted and may be a truer representation of the stroke risk faced by

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the type of patient entered into the Italian Study. To my mind, the 7% procedural risk remains acceptable and must be offset against the risk of stroke should surgery have been deferred for 7–30 days.

If true, the Oxford data suggest that we must 'rewrite the rules' concerning the management of TIA/minor stroke. How many readers have Emergency Rooms in their hospitals with Neurologists, Vascular Surgeons and Radiologists prepared to provide a neurological assessment, Duplex carotid scan, Transcranial Doppler and a CT/MRI within hours of onset of symptoms, never mind the logistics of being able to offer surgery < 24 hours? Why is this possible in some centres but not in others? Probably because it reflects a centre/country that considers acute stroke or TIA to be a 'medical emergency', i.e. on a par with myocardial infarction and unstable angina. Accordingly, this Italian Trial is important because it has confirmed that it is possible to undertake rapid evaluation and investigation so that rapid targeting of treatment (anti-arrhythmic and anticoagulation for cardioembolic stroke, emergency thrombolysis for acute ischaemic stroke and perhaps

urgent/emergency CEA for patients with TIA/minor stroke and a severe ipsilateral carotid stenosis) is possible.

I remain to be convinced that CEA must be done within 1–2 days of onset of symptoms; a target of 5–7 days seems more realistic. I am, however, convinced that the concept of treating patients with TIA or minor stroke as 'emergencies' is the correct way forward and will prevent far more strokes in the community than targeting thousands of asymptomatic patients for CEA or angioplasty!

References

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Accepted 21 April 2006

Available online 22 May 2006