Indications for carotid endarterectomy (CEA) have evolved as stroke services have improved. Hyperacute stroke units are referring more patients with a significant carotid stenosis, some within hours of thrombolysis. In their meta-analysis, Mandavia et al. pooled the evidence to date to attempt to assess 30-day safety of urgent CEA for these patients. However, care must be taken with the interpretation and contextualization of these results.

The introduction and discussion of this meta-analysis quote from NICE guidelines, ECST and NASCET, which is misleading in this setting. NICE guidelines have no pathway for carotid surgery after thrombolysis. Patients who received thrombolysis were not included in ECST, NASCET, or any other randomised trial of carotid intervention to date, so results are not directly comparable with the 30-day stroke and death rate from this analysis.

Although the headline estimate of a 5% 30-day stroke/death rate may seem reasonable, this is not being considered in the context of outcomes after thrombolysis for stroke. The reality is that the fate of the matched thrombolysed patient treated with modern best medical therapy is unknown. There are no published subgroup analyses from the stroke thrombolysis trials with which to compare these results. Recurrent ischaemic stroke in the first 7 days after thrombolysis was actually rare (1%).

The 30-day estimate of stroke or death after CEA in this analysis was between 2% and 9%. This large confidence interval reflects the low number of events (4 strokes and 4 deaths) from which it was derived. If the headline estimate were 9%, as it could be, would the result still be considered evidence of safety? This highlights the major flaw in these data, the low-quality assessment of the included studies highlights the other.

Long-term outcomes after thrombolysis for stroke were relatively poor. Pooled 90-day mortality was 17%. Thirty-one to 90-day mortality was 4.4% for patients with favourable clinical outcomes. Therefore the long term benefits of stroke prevention after CEA in this group are unclear. In addition, secondary endpoints could not be included in the preceding meta-analysis. A combined endpoint may have a place in this group of patients as, for example, the largest randomised trial of thrombolysis to date had a 2% 7-day incidence of myocardial infarction.

It is unclear how many units currently offer urgent CEA after thrombolysis for stroke. Improving stroke services, guidelines for TIA, and emerging evidence for hyperacute CEA, are, however, guiding us inexorably towards the practice. Randomised trial aside, a close eye must be kept on registry and trial data for these patients to make sure they are actually deriving benefit, especially in the long term.

REFERENCES

3. IST-3 Collaborative Group. The benefits and harms of intravenous thrombolysis with recombinant tissue plasminogen activator within 6 h of acute ischaemic stroke (the third international stroke trial [IST-3]): a randomised controlled trial. Lancet 2012;339:2352–63.
5. Salem MK, Sayers RD, Bown MJ, Eveson DJ, Robinson TG, Naylor AR. Rapid access carotid endarterectomy can be performed in the hyperacute period without a significant increase in procedural risks. Eur J Vasc Endovasc Surg 2011;41(2):222–8.