Letters to the Editor

Blood pressure lowering in acute stroke – consider the carotids

SIR—We read with interest the review article by Robinson and Potter on blood pressure in acute stroke recently published in Age and Ageing [1]. We would like to specifically raise concerns regarding aggressive blood pressure lowering in patients with bilateral carotid artery occlusive disease (≥70% stenosis). Rothwell et al. [2] for the Carotid Endarterectomy Trialist’s Collaboration showed that, in populations of patients after transient ischaemic attack, there was an inverse relationship between blood pressure and stroke risk in those who have bilateral ≥70% carotid stenosis. This was thought to be due to critically reduced cerebral perfusion. We infer from this study that, in patients who have suffered acute ischaemic stroke when cerebral autoregulation is impaired, there may be an even greater risk of increasing cerebral ischaemic damage if blood pressure is lowered in the presence of bilateral >70% carotid stenosis.

Although this situation of bilateral carotid occlusive disease only occurs in about 2% of patients [2], ideally all patients should have carotid duplex scans after acute stroke to identify this high-risk group and to consider carotid revascularisation before attempting to lower blood pressure. This will have resource implications and further research will be required to evaluate the cost-effectiveness of this strategy.

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Reply

SIR—We write in response to the comments of Das and colleagues on our recent review of blood pressure in acute stroke [1], and in particular their concerns in respect of the reduction of blood pressure following acute stroke in patients with severe (≥70%) carotid artery disease. The design of our trials, Controlling Hypertension and Hypotension Immediately Post-Stroke (CHHIPS) (www.le.ac.uk/CHHIPS/HomePage.html) and Continue Or Stop post-Stroke Antihypertensives Collaborative Study (COSSACS) (www.le.ac.uk/COSSACS/COSSACShome.html), specifically excludes patients with known carotid artery stenosis (>70%). Furthermore, lisinopril is being used as one of the depressor therapies in the CHHIPS trial. Agents acting on the renin-angiotensin system have been shown to reduce systemic blood pressure without detrimental effects on cerebral blood flow in acute stroke patients with [2] and without [3] significant carotid disease. Also, there is preliminary evidence that such agents reduce the secondary outcome of cardiovascular morbidity and mortality at 1 year, albeit in a small study of patients with severe hypertension where those with known carotid artery stenosis of >70% were excluded [4]. However, a sub-study of the CHHIPS trial will assess the effects of acute blood pressure manipulation on neurological outcome and relate this to the degree of atheromatous disease of the distal internal carotid and proximal middle cerebral arteries as determined by CT or MR angiography studies. Nonetheless, hypertension remains a common problem in the everyday clinical management of acute stroke patients, and is associated with an increased risk of death and dependency for both ischaemic and haemorrhagic stroke patients [5]. This important issue is the subject of ongoing multi-centre UK trials (CHHIPS, COSSACS), which will also provide data on the relevance of concomitant carotid and middle cerebral artery disease, as well as stroke severity, stroke subtype, age, degree of blood pressure reduction, and class, dose and route of antihypertensive therapy.

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The difficulty in diagnosing non-convulsive status epilepticus during routine medical practice

SIR—Fernández-Torre and Díaz-Castroverde’s case report [1] highlights an important neurological emergency that in our experience not infrequently presents to acute medicine, including accident and emergency, general and elderly