

transformation seems to be higher in cardioembolic stroke.^{w38 w39} Whether asymptomatic haemorrhagic transformation significantly influences early or long term outcome is debatable. Conversion of asymptomatic haemorrhagic transformation into symptomatic intracerebral haemorrhage with early anticoagulation, however, would be a legitimate concern. Factors leading to haemorrhagic transformation (for example, duration of ischaemia, speed of recanalisation, baseline neurological status, and demographic and imaging characteristics) may help in the timing of anticoagulation in the future.^{w40 w41} There is some information but no randomised controlled trials about resuming anticoagulation in patients with intracerebral haemorrhage and prosthetic heart valves.^{24 w42-w44} There is no information on how soon anticoagulation could be started safely, if at all, in patients with atrial fibrillation after intracerebral haemorrhage.

Outcome

After our patient's intracerebral haemorrhage, we identified control of blood pressure and diabetes as the areas needing most attention. Overall compliance rather than truly "difficult to control" hypertension seemed to be the problem.

We started him on warfarin two weeks after the second (ischaemic) stroke while recognising that he was a very high risk both for future thromboembolism and for intracerebral haemorrhage and therefore would need very close monitoring. He did not make any substantial functional recovery and needed care in a nursing home. However, lately he has been showing some signs of improvement. His blood pressure, international normalised ratio, and diabetes are being regularly monitored. Supervision in the care home has improved compliance with medication.

We acknowledge the lack of evidence for prescribing dipyridamole in preference to aspirin. We also recognise that the area is full of uncertainties, and owing to lack of clear evidence we have not been able to manage the dilemmas with full confidence. We hope that the debate generated by this case might focus researchers' attention on this very important area. We need large scale, well designed trials to help us advise our patients more appropriately in this particularly complex situation.

Contributors: The patient was managed by all authors. MW had the idea of submitting the report. EN and MW conducted the literature search. All authors prepared the manuscript. MW is the guarantor.

Competing interests: None declared.

- 1 Antiplatelet Trialists' Collaboration. Collaborative overview of randomised trials of antiplatelet therapy. I: Prevention of death, myocardial infarction and stroke by prolonged antiplatelet therapy in various categories of patients. *BMJ* 1994;308:81-106.
- 2 Counsell C, Boonyakarnkul S, Dennis M, Sandercock P, Bamford J, Burn J, et al. Primary intracerebral haemorrhage in Oxford community stroke project 2. *Prog Cerebrovasc Dis* 1995;5:26-34.
- 3 Bailey RD, Hart RG, Benavente O, Pearce LA. Recurrent brain haemorrhage is more frequent than ischaemic stroke after intracranial haemorrhage. *Neurology* 2001;56:773-7.
- 4 He J, Whelton PK, Vu B, Klag MJ. Aspirin and risk of haemorrhagic stroke; a meta-analysis of randomised clinical trials. *JAMA* 1998;280:1930-5.
- 5 Keir SL, Wardlaw JM, Sandercock PA, Chen Z. Antithrombotic therapy in patients with any form of intracranial haemorrhage: a systemic review of the available controlled studies. *Cerebrovasc Dis* 2002;14:197-206.
- 6 Prospective Studies Collaboration. Age-specific relevance of individual data for one million adults in 61 prospective studies. *Lancet* 2002;360:1903-13.
- 7 Eastern Stroke and Coronary Heart Disease Collaborative Group. Blood pressure, cholesterol and stroke in eastern Asia. *Lancet* 1998;352:1801-7.
- 8 PROGRESS Collaborative Group. Randomised trial of a perindopril-based blood pressure lowering regimen among 6,105 individuals with previous stroke or transient ischaemic attack. *Lancet* 2001;358:1033-41.

- 9 Vermeer SE, Algra A, Franke CL, Koudstaal PL, Rinkel GJE. Long-term prognosis after recovery from primary intracerebral haemorrhage. *Neurology* 2002;59:205-9.
- 10 Eckman MH, Rosand J, Knudsen KA, Singer DE, Greenberg SM. Can patients be anticoagulated after intracerebral haemorrhage? A decision analysis. *Stroke* 2003;34:1710-6.
- 11 Wolf PA, Dawber TR, Thomas HE Jr, Kannel WB. Epidemiological assessment of chronic atrial fibrillation and risk of stroke: the Framingham study. *Neurology* 1978;28:973-7.
- 12 Stöllberger C, Finsterer J. Primary and secondary stroke prevention in nonrheumatic atrial fibrillation by oral anticoagulation. *Eur Neurol* 2003;50:127-35.
- 13 Atrial Fibrillation Investigators. Risk factors for stroke and efficacy of antithrombotic therapy in atrial fibrillation: analysis of pooled data from five randomised controlled trials. *Arch Intern Med* 1994;154:1449-57.
- 14 Stroke Prevention in Atrial Fibrillation Investigators. Warfarin versus aspirin for prevention of thromboembolism in atrial fibrillation: Stroke Prevention in Atrial Fibrillation II Study. *Lancet* 1994;343:687-91.
- 15 Van der Meer F, Rosendaal F, Vandenbroucke J, Briet E. Bleeding complications in oral anticoagulant therapy: an analysis of risk factors. *Arch Intern Med* 1993;153:1557-62.
- 16 Bungard TJ, Ghali WA, Teo KK, McAllister FA, Tsuyuki RT. Why do patients with atrial fibrillation not receive warfarin? *Arch Intern Med* 2000;160:41-6.
- 17 Vinters HV. Cerebral amyloid angiopathy: a critical review. *Stroke* 1987;18:311-24.
- 18 Senior K. Microbleeds may predict cerebral bleeding after stroke. *Lancet* 2002;359:769.
- 19 Hart RG, Boop BS, Anderson DC. Oral anticoagulants and intracranial haemorrhage: facts and hypotheses. *Stroke* 1995;26:1471-7.
- 20 McCarron MO, Nicoll JA. Apolipoprotein E genotype and cerebral amyloid angiopathy-related haemorrhage. *Ann N Y Acad Sci* 2000;903:176-9.
- 21 Albers GW, Diener HC, Frison L, Grind M, Nevinson M, Partridge S, et al. Ximelagatran vs warfarin for stroke prevention in patients with nonvalvular atrial fibrillation. A randomized trial. *JAMA* 2005;293:690-8.
- 22 Saxena R, Lewis S, Berge E, Sandercock PAG, Koudstaal PJ, for the International Stroke Trial Collaborative Group. Risk of early death and recurrent stroke and effect of heparin in 3,169 patients with acute ischaemic stroke and atrial fibrillation in the International Stroke Trial. *Stroke* 2001;32:2333-7.
- 23 Berge E, Abdelnoor M, Nakstad PH, Sandset PM. Low-molecular weight heparin versus aspirin in patients with acute ischaemic stroke and atrial fibrillation: a double-blind randomised study. HAEST Study Group. Heparin in Acute Embolic Stroke Trial. *Lancet* 2000;355:1205-10.
- 24 Bertram M, Bonsanto M, Hacke W, Schwab S. Management of therapeutic dilemma: patients with spontaneous intracerebral haemorrhage and urgent need for anticoagulation. *J Neurol* 2000;247:209-14. (Accepted 6 July 2005)

Corrections and clarifications

Hajj: journey of a lifetime

In this Clinical Review by Abdul Rashid Gatrud and Aziz Sheikh, the dosage given for a vaccine was incorrect (*BMJ* 2005;330:133-7). The article said that pilgrims to the Hajj in Mecca have to be vaccinated against meningitis before attending—but the vaccine named, ACWY Vax, should be given only once (not twice, as was stated).

Researcher fined for shredding records

In this item in the In Brief column of the News section (*BMJ* 2005;331:8, 2 Jul), we said that Christopher Gillberg, an expert on attention-deficit/hyperactivity disorder in Sweden, had been fined for shredding his research data. In fact, he had been fined for "misuse of office" for his role in failing to comply with a court order granting access to his data (see *bmj.com*, 23 Jul 2005, News Extra).

UK stops short of outright smoking ban in enclosed public places

Devolution has again tripped us up. This News article by Kaye McIntosh, should have clarified that it is England and Wales (not the whole of the United Kingdom) that have "stopped short of banning smoking in all enclosed public places" (*BMJ* 2005;330:1468, 25 Jun). In Scotland a ban on smoking in public places is scheduled to be introduced in 2006. Northern Ireland is planning to introduce a ban on smoking in public places, but is still undecided on whether the ban will be total or partial.