carotid stenosis of greater than 70% requiring endarterectomy. Of these 13 patients, 1.66 would have a stroke in the next three years, compared with 2.86 if no operations were performed—an annual saving of 1.2 strokes.

Though such treatment is of paramount importance to those patients spared a stroke, in relative terms the need for high quality acute care and subsequent rehabilitation remains of prime importance to the 249 other patients who will continue to suffer strokes each year.

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1 Brown MM, Humphry PRD. Carotid endarterectomy: recommendations for management of transient ischaemic attack and ischaemic stroke. *BMJ* 1992;305:1071-4. (31 October.)

EDITOR,—We agree with Martin M Brown and Peter R D Humphrey that duplex scanning should be available to all patients with a transient ischaemic attack or stroke in the carotid territory.¹ We take issue, however, with the statement that carotid angiography should necessarily be performed in patients with moderate or severe stenoses on duplex scanning.

The authors report that if carotid endarterectomy was performed on all appropriate patients 500 major strokes might be prevented each year. Given the risks of carotid angiography,² however, if all eligible patients underwent this procedure 50 severe and 150 mild strokes might be provoked.

Duplex scanning has been reported as sufficiently accurate for assessing patients considered for carotid surgery,^{3,5} although in cases of suspected subtotal occlusion we agree that angiography may still be required. We believe that, except in these cases, duplex scanning alone will suffice. Not only is it cheaper and safer but it allows characterisation of plaque morphology, thus identifying higher risk subgroups of patients.⁶ We propose that all centres should have access to duplex scanners with experienced vascular technicians and see this as a future trend requiring appropriate funding.

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1 Brown MM, Humphrey PRD. Carotid endarterectomy: recommendations for management of transient ischaemic attack and ischaemic stroke. *BMJ* 1992;305:1071-4. (31 October.)
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Outcome of breech delivery at term

EDITOR,—In their letter¹ Gary Thorpe-Beeston and colleagues make a robust but incomplete defence of their paper² without re-examining the data that correspondents query.³ In particular, what were the detailed causes of the nine deaths? They also do not indicate whether the completeness and accuracy of the St Mary's maternity information system have been validated.

Obstetric colleagues have expressed legitimate and serious doubt about the validity of the conclusion of their paper: that a retrospectively deter-

mined perinatal loss with vaginal delivery approaching 1% should be quoted prospectively in an antenatal clinic to women with a breech presentation at term. The paper may be an important landmark but, alternatively, may be fatally flawed (for example, if the deaths occurred in undiagnosed breech presentations). We have not been given the extra detail needed to judge. It is not adequate for the authors to reply that their database system "cannot provide the fine detail necessary." It should not be difficult to review nine sets of notes. The authors should answer the correspondents' questions.

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1 Thorpe-Beeston G, Banfield P, Saunders N. Outcome of breech delivery at term. *BMJ* 1992;305:1092. (31 October.)
2 Thorpe-Beeston JG, Banfield PJ, Saunders NJS. Outcome of breech delivery at term. *BMJ* 1992;305:746-7. (26 September.)
3 Correspondence. Outcome of breech delivery at term. *BMJ* 1992;305:1090-2. (31 October.)

EDITOR,—J G Thorpe-Beeston and colleagues' observations on the apparent influence of the method of delivering infants presenting by the breech at term¹ prompted us to look at the outcome for singleton infants presenting by the breech at term (>37 weeks' gestation) in our unit from January 1981 to December 1990. The table gives the results together with the outcome for comparable pregnancies with a non-breech presentation; during this time the annual number of confinements in the unit ranged between 5700 and 6700.

Elective caesarean sections for breech presentation were performed for 36% of both primiparous and multiparous women (395/1085 and 310/861 respectively), but caesarean sections during labour were performed for 30% of primiparous women (324/1084) but only 13% of multiparous women (112/861). We considered it appropriate to analyse overall fetal and neonatal outcome according to whether delivery was by caesarean section before labour or labour and vaginal delivery were seemingly intended.

Our results differ from those of Thorpe-Beeston and colleagues. The proportion of babies with a low Apgar score (<7 at five minutes) was lower, intubation rates were higher, and there were lower admission rates to the special care baby unit. We found little difference in these outcome measures between babies delivered by elective caesarean section and those delivered vaginally or by caesarean section during labour.

The perinatal death rate (excluding antepartum deaths and those associated with congenital anomaly) associated with breech presentation in our unit (0.36%) was similar to that reported by Thorpe-Beeston and colleagues (0.26%) despite our lower use of caesarean section (58% v 72%). However, we found little difference in the perinatal death rate between those born after the onset of labour (0.32%) and those born by caesarean section

before labour (0.42%). The perinatal death rate for non-breech presentation was identical with that quoted by Thorpe-Beeston and colleagues (0.08%). Our results thus suggest that the outcome is less favourable in breech presentation than cephalic presentation irrespective of the mode of delivery and that some unrecognised lethal factor may be associated with breech presentation.

Considerable caution should be used when examining results obtained from the small numbers in our audit and that of Thorpe-Beeston and colleagues. Prospective randomised treatment is recognised to be the best way of assessing the relative merits of two different management strategies. Although caesarean section may seem a safer option for the baby, little evidence supports that conclusion and it should not be promoted at the expense of maternal health.²

The figures presented were provided by the Oxford obstetric data system. We thank the staff who collected and verified the data.

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1 Thorpe-Beeston JG, Banfield PJ, Saunders NJS. Outcome of breech delivery at term. *BMJ* 1992;305:746-7. (26 September.)
2 Department of Health, Welsh Office, Scottish Home and Health Department, Department of Health and Social Security of Northern Ireland. Report on confidential enquiries into maternal deaths in the United Kingdom 1985-1987. London: HMSO, 1991:119-27.

EDITOR,—Among the several responses to J G Thorpe-Beeston and colleagues' paper¹ two correspondents question the accuracy of the database analysed.^{2,3} As part of a wider study of the validity of routinely collected clinical data CASPE Research recently assessed the accuracy of the North West Thames database, which Thorpe-Beeston and colleagues used (a report is in preparation). A qualified midwife received almost 900 sets of case notes, sampled from three units. For each case 17 data items, covering both quantitative and categorical elements, were recorded. The resulting abstracts were compared with matched records drawn from the North West Thames database. A matched record was obtainable for every case, and only one field at one unit was completed with a frequency of less than 99%.

The level of agreement between the computer record and the midwife reviewer was generally high. Two thirds of the items showed agreement of over 95%, with only two items falling below 80% agreement. Where substantial disagreement was found the pattern of errors indicated clear, and rectifiable, problems of definition. As might be expected, simple categorical fields were the best recorded. Of particular relevance to the study of Thorpe-Beeston and colleagues are the agreement rates of 99.7% and 100% obtained for mode of delivery and stillbirth, respectively.

Outcome for pregnancies with breech and non-breech presentations in one unit, 1981-90. Figures are numbers (percentages)

	Vaginal delivery	LSCS during labour	All intended vaginal deliveries	LSCS before labour	All deliveries
<i>Breech presentation</i>					
No of babies	805	436	1241	705	1946
Apgar score < 7	21 (2.6)	7 (1.6)	28 (2.3)	8 (1.1)	36 (1.8)
Intubation	113 (14.0)	99 (22.7)	212 (17.1)	58 (8.2)	270 (13.9)
Admission to special care baby unit	33 (4.1)	30 (6.9)	63 (5.1)	46 (6.5)	109 (5.6)
Perinatal death	4 (0.5)	0	4 (0.32)	3 (0.43)	7 (0.36)
<i>Non-breech presentation</i>					
No of babies	48 512	2218	50 730	1935	52 665
Apgar score < 7	385 (0.8)	74 (3.3)	459 (0.9)	35 (1.8)	494 (0.9)
Intubation	2265 (4.7)	506 (22.8)	2771 (5.5)	140 (7.2)	2911 (5.5)
Admission to special care baby unit	1416 (2.9)	232 (10.5)	1648 (3.2)	200 (10.3)	1847 (3.5)
Perinatal death	34 (0.07)	4 (0.18)	38 (0.07)	7 (0.36)	45 (0.09)

LSCS=Lower segment caesarean section.