am making. I have never stated that recoarctation rate in neonates (≤30 days) and infants (≤1 year) is low. In our own study,[3] the recoarctation rate in neonates is similar to that reported by Redington. As I have emphasised since the very first report on balloon angioplasty published by me 10 years ago in *British Heart Journal*,[8] the important feature of balloon angioplasty in the neonate and young infant is that it produces abatement of symptoms of heart failure and hypertension and helps avoid immediate surgery. Should recurrence ensue, it can be treated by repeat balloon angioplasty[3] or even surgery, if one prefers, when the infant is stable and less acutely ill. Additional points of interest are (*a*) mortality with either balloon or surgical therapy is largely dependent upon the associated cardiac defects and not the type of intervention (surgery or balloon)[7] and (*b*) duration of hospital stay and mechanical ventilation and immediate complication rate are lower with balloon than with surgical therapy.[7]

Aneurysms—Unfortunately aneurysms can occur spontaneously, after balloon angioplasty (referenced extensively elsewhere[2]), and after surgery.[2 9] The addition of Shaddy's data to the other data, does not change overall incidence of aneurysms observed in either balloon or surgical groups. Qureshi states that I did not mention the aneurysms in Shaddy's study: this is clearly stated in the editorial, on page 570, left column, paragraph 2, lines 4 and 5.

Conclusion—Unlike Qureshi *et al*, I believe that balloon angioplasty has an important role in the management of sick neonates with aortic coarctation, especially if transumbilical route[4] can be used. In my opinion, a balanced editorial was written with careful consideration to all issues at hand and I continue to believe that the data indicate balloon angioplasty is an effective and safe alternative to surgical therapy of native aortic coarctation.

P SYAMASUNDAR RAO
Division of Pediatric Cardiology,
St Louis University School of Medicine,
Cardinal Glennon Children's Hospital,
St Louis MO, USA

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Imaging the thoracic aorta

SIR,—Few people would disagree with Dr Reid's conclusion that magnetic resonance imaging has replaced aortography as the reference standard for imaging patients with chronic aortic disease.[1] He also reminds us that aortic disease can be complex and that occasionally, some patients will require imaging by several techniques before management decisions can be made. Although the clinical presentation of acute dissection of the thoracic aorta can be variable, a significant number of patients present with a characteristic history and confirmatory abnormalities on clinical examination. Deciding how and where to image these patients in an emergency situation requires clear guidance to facilitate urgent potentially life saving surgery.

Our experience suggests that imaging these high risk patients in a non-surgical centre is slow and inaccurate and that most require repeat imaging before management decisions can be made.[2] We advocate that in unstable patients with a high clinical index of suspicion of dissection, medical treatment with intravenous β blockers and/or sodium nitroprusside should be started and that the patient should then be transferred immediately to the surgical centre for both diagnostic imaging and management. Patients with a low clinical index of suspicion of dissection who are in a stable cardiovascular state, should undergo prompt local investigation using a nominated non-invasive technique.[3]

Just as *x* ray gantry rotation has improved the accuracy of computed tomography (CT) scanning, the use of biplane and multiplane imaging has improved transoesophageal echocardiography (TOE) and many of the limitations of echocardiography suggested by Dr Reid are no longer valid. In expert hands spiral CT, magnetic resonance imaging (MRI), and TOE are each excellent imaging techniques.[4] Debate over the relative merits must now occur at a local level and each centre must decide which technique it will use before undertaking emergency surgery. This decision should be based on the available expertise and individual preference.

We have found that after TOE in patients with suspected dissection, repeat imaging using a different technique is rarely necessary to make management decisions.[2] With TOE the cost is minimal and there is no delay associated with patient transfer or assembling ancillary staff. The study can be performed rapidly in the cardiac care unit by one operator and during the study the patient remains accessible to medical and nursing staff. TOE provides detailed information about the morphology and physiology of a dissection including information about other associated complications such as aortic regurgitation and tamponade and these data are usually sufficient to plan optimal management.[2]

Technology will inevitably continue to improve the absolute accuracy of aortic imaging, but I believe that until each cardiac unit has its own dedicated thoracic imaging system TOE will continue to play a key part in the emergency management of patients with dissection of the aorta.

ADRIAN P BANNING
Department of Cardiology,
John Radcliffe Hospital,
Oxford OX3 9DU

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This letter was shown to the author, who replies as follows:

SIR,—I thank Dr Banning for his interest in my editorial and for his comments regarding the investigation of acute aortic dissection. There is certainly merit in the suggestion that all patients with a high index of suspicion of dissection should be imaged in a surgical centre and there is no doubt that patients with a type A dissection require urgent attention from a cardiothoracic surgeon. Unfortunately, for various reasons including the experience of the attending physician, the complexity of presentation, and coexisting disease, the clinical picture is frequently far from clear cut. Other complicating factors then come into play such as local imaging expertise, distance from a surgical centre, cost, and convenience. It is for these reasons that a broad perspective on imaging is necessary in any discussion of aortic dissection.

I wholly agree that in experienced hands transoesophageal echocardiography is a powerful diagnostic tool. It is, however, disappointing that Dr Banning should attempt to advance his thesis by quoting his retrospective study.[1] In this study TOE was carried out by four experienced echocardiographers, and a comparison made with CT performed on various machines of various ages by operators with various degrees of experience. This is the type of study that unfortunately has a tendency to cloud objective assessment of imaging techniques.

Dr Banning's supportive reference to the paper by Sommer *et al* is welcome because this prospective study convincingly demonstrates that there is no statistically significant difference between TOE, spiral CT, or MRI in the detection of acute aortic dissection, and it confirms that spiral CT has a clear advantage in detecting arch vessel involvement.[2] This paper also reinforces the contention that one of the main limitations of multiplanar TOE is the "strong dependence on the investigator's experience and the difficulty to accurately document pathologic findings for follow up studies". Sommer *et al* go on to state spiral CT is fast and easy to perform and is probably the least operator dependent imaging technique.

Finally, I am pleased to agree with Dr Banning that local expertise should be used to best advantage. However, with respect to a single imaging technique for what is a relatively common diagnostic dilemma, I find it difficult to promote any technique that relies heavily on an individual operator and is not readily available.

JOHN H REID
Department of Radiology,
Royal Infirmary Edinburgh,
Edinburgh EH3 9YW

1 Banning AP, Masani ND, Ikram S, Fraser AG, Hall RJC. Transoesophageal echocardiography as the sole diagnostic investigation in patients with suspected thoracic aortic dissection. *Br Heart J* 1994;**72**:461–5.

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Measuring outcomes: one month survival after acute myocardial infarction in Scotland

SIR,—We recently reported a cohort study describing 30 day survival after acute myocardial infarction in 40 371 hospital admissions in Scotland during 1988–1991.[1] This used the Scottish Record Linkage System, a national database linking inpatient data to death certificate information for the population of 5·1 million. We have now replicated this study by analysing an updated dataset of the 38 655 patients admitted during 1991 to 1994. Thirty day survival after admission for acute myocardial infarction increased from 77·5% in 1988–91 to 78·9% in 1991–94. When 15 919 acute myocardial infarction deaths in the community were included, overall survival increased from 53·2% to 55·9%.

A logistic regression analysis examined available prognostic factors such as age, sex, prior and comorbidity, and deprivation.[1] The odds of dying within 30 days remained remarkably consistent over both periods (table).

Deprivation had a modest effect on mortality, as reported elsewhere.[2] Mortality was estimated at 13% higher in females ($P < 0·0001$), even after adjusting for age, prior and comorbidity, and deprivation. This accords with a recent North Glasgow MONICA (Monitoring Trends and Determinants in Cardiovascular Disease) study where females had significantly higher mortality after admission.[3] This scale of effect is also consistent with other studies, particularly larger ones which have adjusted for age, severity, and other factors.[1 4]

One month survival after acute myocardial infarction could potentially be a useful means of measuring outcome of hospital care. Important geographical differences in survival persist and could reflect variations in infarct severity, referral, admission, diagnosis, definition, and coding that merit further research.

E JUSZCZAK
J BOYD
ISD Scotland,
Information and Statistics Division,
Trinity Park House,
South Trinity Road,
Edinburgh EH5 3SQ
S CAPEWELL
Department of Public Health,
University of Glasgow

1 Capewell S, Kendrick S, Boyd J, Cohen G, Juszczak E, Clarke J. Measuring outcomes: one month survival after acute myocardial infarction in Scotland. *Heart* 1996;**76**: 70–5.
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Logistic regression analysis: odds of dying within 30 days of admission for acute myocardial infarction (AMI)

	Oct 88–Sept 91	*Oct 91–Sept 94*	
Coding	*Odds ratio*	*Odds ratio*	*95% Confidence interval*
Age:			
Under 55	1·00	1·00	
55–64	2·27	2·39	2·08 to 2·75
65–74	4·41	4·85	4·26 to 5·53
75–84	8·19	8·78	7·69 to 10·01
85 plus	11·99	13·89	12·00 to 16·09
Prior and co-morbidity:			
No other condition	1·00	1·00	
Previous AMI	1·74	1·64	1·47 to 1·84
Other CHD	2·03	2·06	1·89 to 2·25
Other heart disease	1·83	1·79	1·65 to 1·95
Other circulatory disease	1·53	1·59	1·43 to 1·76
Respiratory disease	1·65	1·55	1·35 to 1·77
Neoplasm	1·60	1·52	1·30 to 1·79
Diabetes	1·49	1·21	0·98 to 1·50
Any other disease	1·24	1·25	1·14 to 1·37
Sex:			
Male	1·00	1·00	
Female	1·07	1·13	1·07 to 1·19
Deprivation:			
Least deprived	1·00	1·00	
	1·07	1·15	1·06 to 1·26
	1·05	1·14	1·05 to 1·24
	1·10	1·12	1·03 to 1·22
Most deprived	1·06	1·12	1·03 to 1·22

Odds ratios are adjusted for the remainder of the potential confounders given above.
Logistic regression was performed on 38 482 AMI hospital admissions. CHD, coronary heart disease.

NOTICES

The **Second European Forum on Quality Improvement in Health Care** will be held on 24–26 April 1997 in Paris. The forum will consist of one day teaching courses, invited presentations, posters and presentations selected from submissions and a scientific session.

For more information contact: BMA, Conference Unit, PO Box 295, London, WC1H 9TE (tel: +44 (0) 171 383 6478; fax: +44 (0) 171 383 6869).

A conference (CME approved) on **Clinical Cardiology** will take place on Tuesday 18 March 1997 at the Royal College of Physicians, 11 St Andrews Place, Regent's Park, London NW1. For further information please contact Conference Office, Royal College of Physicians (tel: 0171 935 1174: fax: 0171 487 5218).