Acute coronary syndromes: consensus recommendations for translating knowledge into action

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Forge (page 696) has raised specific concerns about our recent position statement on implementing the National Health Foundation of Australia (NHFA)/Cardiac Society of Australia and New Zealand (CSANZ) consensus recommendations for managing patients with acute coronary syndromes (ACS). In particular, he questions whether providing all patients with equal access to percutaneous coronary intervention (PCI) services is truly evidence-based.

Transferring patients with non-ST-elevation acute coronary syndromes (NSTEACS)
The 2006 NHFA/CSANZ guidelines recommend:

- High-risk patients with NSTEACS should be treated with aggressive medical management and arrangements should be made for coronary angiography and revascularisation, except in those with severe comorbidities.

Forge is disturbed by the lack of discussion in the 2006 NHFA/CSANZ guidelines around this recommendation. Detailed discussion about the evidence for early angiography and revascularisation was provided in the NHFA/CSANZ unstable angina guidelines produced in 2000. At that time, it was recognised that studies that reported the greatest benefit of an invasive strategy were those in which there was a large difference in intervention rates between the two treatment groups. With the completion of further trials, including the ICTUS (Invasive versus Conservative Treatment in Unstable Coronary Syndromes) study, this observation has been strengthened. When trials with the largest absolute differences in revascularisation rates are pooled, a significant reduction in death is seen. If the conservatively managed group has a high rate of intervention, as in the ICTUS study (in which 53% of the conservative management group underwent angiography in hospital, and 67% by one year), the differences between strategies diminish.

A review of 2380 patients with chest pain admitted to 27 Australian hospitals between January 2003 and August 2005 found that only 20% of patients with ACS who were admitted to coronary care units in hospitals without angiographic services underwent coronary angiography. Low intervention rates such as these have consistently been shown to be associated with poorer outcomes, prompting our recommendation that access to catheterisation laboratories for high-risk patients with NSTEACS should be increased. We would have particular concern with Forge’s contention that the ICTUS study provides justification for a more conservative approach for these patients than is taken at present.

Our recommendation is consistent with contemporary international guidelines. The American College of Cardiology/American Heart Association 2007 guidelines in fact offer a Class 1 recommendation, level of evidence A, for an early invasive strategy in initially stabilised patients with unstable angina or non-ST-elevation myocardial infarction (NSTEMI) who have an elevated risk of experiencing clinical events. The approach of choosing an initial conservative strategy for these patients, as cited by Forge, is afforded a Class 2B recommendation, level of evidence C — in other words, a weaker recommendation, supported by a less robust evidence base.

Routine transfer of all patients with ST-elevation acute coronary syndromes (STEACS)
The 2006 NHFA/CSANZ guidelines recommend:

- Patients who have had STEMI should be considered for early transfer to a tertiary cardiac centre with PCI facilities and links to cardiac surgical facilities (Grade B recommendation).

If early transfer is not possible, all patients should be transferred or referred as soon as is practicable for assessment of the need for revascularisation (through PCI or coronary artery bypass grafting) (Grade D recommendation).

Despite Forge’s concerns, we believe that the evidence supporting these recommendations is stronger than it was in 2005, when the guidelines were produced, particularly for anterior and large inferior STEMIIs. The CARESS-in-AMI (Combined Abciximab Reteplase Stent Study in Acute Myocardial Infarction) trial demonstrated that a strategy of immediate PCI led to a significant reduction in death, reinfarction and refractory ischaemia compared with the standard care of rescue-only angioplasty after fibrinolysis. Importantly, only 30% of patients in the standard care arm underwent PCI during hospitalisation, compared with 97% in the immediate PCI arm. Thus, offering angiography to high-risk patients with STEMI receiving fibrinolysis during their admission contributes to a reduced event rate.

Forge erroneously cites the TRANSFER-AMI (Trial of Routine Angioplasty and Stenting after Fibrinolysis to Enhance Reperfusion in Acute Myocardial Infarction) study as evidence against a strategy of routine transfer after fibrinolysis. In fact, most patients in the ‘standard treatment’ arm were treated in this way: 88.7% underwent coronary angiography a median of 32.5 hours after fibrinolysis.

Guideline implementation and future guideline development

The 2006 guidelines for managing ACS were developed by health professionals with different backgrounds through a consensus approach involving independent assessment of key clinical guide-

Abbreviations

| ACS | Acute coronary syndromes |
| CSANZ | Cardiac Society of Australia and New Zealand |
| ICTUS | Invasive versus Conservative Treatment in Unstable Coronary Syndromes |
| NHFA | National Heart Foundation of Australia |
| NSTEACS | Non-ST-elevation acute coronary syndromes |
| NSTEMI | Non-ST-elevation myocardial infarction |
| PCI | Percutaneous coronary intervention |
| STEMI | ST-elevation myocardial infarction |
lines and scientific articles (acknowledged to be incomplete in some areas).

The recommendations that emerged from the subsequent national acute coronary syndrome implementation forum arrived at a consensus view of the key priority interventions that, if applied Australia-wide, would result in improved clinical outcomes. The forum specifically addressed rural and remote settings, where one identified priority was to implement region-specific systems to facilitate reperfusion treatment and subsequent care, including transfer, if appropriate.

We clearly do not accept Forge’s contention that our recommendations are based on flawed interpretation of the evidence, nor his inflammatory assertion that the authors had any pecuniary conflict of interest.

Guidelines are becoming increasingly important in influencing clinical practice, and an understanding of the optimal processes for their development is evolving. We agree on the need for government support in this area. Australia needs a more formal and strategic approach to prioritising, developing and implementing clinical guidelines. To this end, the NHFA has accepted a commission from the Australian Department of Health and Ageing to work with stakeholders, including the National Health and Medical Research Council, to define potential components of an improved collaborative model for developing cardiovascular disease clinical guidelines in Australia.

Competing interests

The authors are all members of the NHFA ACS Guideline Implementation and Advocacy Working Group. David Brieger has been a member of advisory boards for Sanofi-Aventis, Eli Lilly, AstraZeneca and Boehringer Ingelheim, and has received research grants from Sanofi-Aventis, Eli Lilly, Schering-Plough and Merck Sharp & Dohme. Constantine Aroney has received reimbursement for travel/accommodation expenses from Sanofi-Aventis, Eli Lilly and Medtronic and payment for developing educational presentations from Eli Lilly, Pfizer and The Medicines Company. Derek Chew has been a board member for Sanofi-Aventis, Eli Lilly and AstraZeneca, and has received reimbursement for travel/accommodation expenses from AstraZeneca and fees for expert testimony from Sanofi-Aventis and Eli Lilly. Anne-Maree Kelly has been on advisory boards for Sanofi-Aventis, AstraZeneca and Medical Developments International, and has received reimbursement for travel/accommodation expenses from RADIOMET. Darren Walters has received a research fellowship from Medtronic and reimburse-ment for travel/accommodation expenses from Eli Lilly, AstraZeneca, Medtronic, GlaxoSmithKline, Johnson & Johnson, Universal Biosensors, Boston Scientific and Abbott Australasia, as well as organisations including the American Heart Association, the Royal Australasian College of Physicians and CSANZ. Carrie Toohey is employed by the NHFA and has received institutional funding from CSANZ and the Australasian College of Emergency Medicine. Andrew Boyden is employed by the NHFA.

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