Early management of myocardial infarction

The challenge for GPs is to change

EDITOR,—At the same time as Hazel Wyllie and Francis Dunn were doing their study on use of aspirin in cases of chest pain in the north sector of Glasgow,¹ the first part of an audit was carried out among general practitioners in all of Glasgow over a period of a year. Half of those involved in 156 incidents of chest pain carried aspirin routinely, a fifth gave aspirin to patients with chest pain suspected of being myocardial infarction. The preliminary results were shown at the Scottish National GP Audit Symposium. Since then (and since Wyllie and Dunn's study) the results have been presented at meetings attended by Glasgow general practitioners and the need for aspirin discussed and emphasised. More meetings are planned.

Chest pain at home can be difficult to diagnose and manage. Most chest pain is not cardiac in origin, and the presentation of myocardial infarction may not be classical. General practitioners tend to be concerned with assessing the patient, relieving symptoms, handling anxious relatives, and arranging for patients to be transferred to hospital and given thrombolysis as soon as possible. Doubts over diagnosis may have inhibited use of aspirin in the past, and it is not long since aspirin was being pilloried for its side effects. Intravenous analgesia in the patient's home is not always without hazard. In a city like Glasgow with "immediate" ambulances patient transfer is quick.

Wyllie and Dunn's study depended on the recollections of patients who were unwell. Our study depended on the general practitioners accurately recording their actions. Both these methods may lead to some bias.

The challenge is to change. Publishing papers in academic journals seems to be of limited effect; implementing change is more likely to work if the difficulties perceived by general practitioners are addressed. General practitioners in Glasgow have already taken action to improve management of this situation. There is no room for complacency, but future audits should show a rise in the administration of aspirin and appropriate drug therapy.

ALASTAIR D SHORT
Former chairman
BARBARA WEST
Chairman

Community/Primary Care Audit Committee,
c/o GP Subcommittee,
Glasgow G9 9JT

1 Wyllie H, Dunn F. Pre-hospital opiate and aspirin administration in patients with suspected myocardial infarction. *BMJ* 1994;308:760-1. (19 March.)

Paramedics should give an opiate

EDITOR,—In their guidelines for the early management of myocardial infarction C F M Weston and colleagues state that ambulance staff do not give opiates.¹ Although they recommend that ambulance services should develop protocols for the administration of oxygen, nitrates, and aspirin, they make no such recommendations about opiate analgesia. They do, however, acknowledge that this can be given safely.

In 1992 some paramedics of the then Plymouth

division of Devon ambulance service who had been trained by the NHS Training Directorate were, after additional training, allowed to give nalbuphine not only to patients with myocardial infarction but also to patients with isolated fractures and burns. This achieved good pain relief with no important side effects.² The service was not the first ambulance service to give the drug in Britain. Because of the success in Plymouth the drug is now being introduced throughout the Westcountry Ambulance Service Trust.

A combined response by the ambulance service and general practitioner to a patient with chest pain is an ideal, but when this is not possible patients should not be deprived of the benefits of analgesia: trained ambulance staff should give an opiate as well as oxygen, aspirin, and nitrates.

H R GULY

Consultant in accident and emergency
Accident and Emergency Department,
Derriford Hospital,
Plymouth PL6 8DH

1 Weston CFM, Penny WJ, Julian DG on behalf of the British Heart Foundation Working Group. Guidelines for the early management of patients with myocardial infarction. *BMJ* 1994;308:767-71. (19 March.)

2 Chambers JA, Guly HR. Prehospital intravenous nalbuphine administered by paramedics. *Resuscitation* (in press).

Senior staff should see all emergencies

EDITOR,—The guidelines for the early management of patients with myocardial infarction raise several points and highlight some deficiencies in the care of emergencies in Britain.¹ It is important to differentiate between treatment required by patients who present with cardiac arrest and that required by patients who present with symptoms of chest pain suggestive of myocardial infarction.

The best chance of survival after cardiac arrest in the community occurs when a bystander gives immediate and effective basic life support and this is followed by early advanced cardiopulmonary resuscitation and then evacuation to hospital.² Advanced resuscitation is currently most readily provided by paramedics working independently.

On the other hand, if a patient has chest pain suggestive of myocardial infarction a response by both the general practitioner and the ambulance service seems ideal. This combines the diagnostic and treatment skills of the general practitioner with the equipment and rapid, safe route to hospital provided by the paramedic. After brief initial assessment and treatment with analgesia, aspirin, nitrates, and oxygen the main priority must be prompt evacuation to hospital, particularly in urban settings, where the time taken to reach hospital is short. In a rural environment, where the time taken to reach hospital is prolonged, further investigation and treatment, including thrombolytic treatment given by the general practitioner, may be of benefit.³

When the patient arrives at the hospital direct admission to the coronary care unit or fast tracking through the accident and emergency department for assessment by experienced clinicians can reduce delays to the administration of thrombolytic treatment.^{4,5} Unfortunately, although these benefits are known, most patients who present to hospital as an emergency are still initially managed by junior staff. Indeed, most accident and emergency departments in Britain are staffed by senior house officers holding six month posts. Too often in hospital, emergencies are regarded by senior

clinicians as an interruption to the smooth running of ward rounds and routine out patient clinics. The resulting delegation of initial assessment to junior staff leads to unacceptable delay in definitive treatment, unnecessary investigation, and, in some cases, inappropriate management.

A radical shake up is required throughout the medical profession such that all patients presenting as an emergency—not just those with myocardial infarction—are primarily dealt with by interested, competent, senior staff. Only then will prompt, effective, definitive care be delivered to those who require it.

JAMES STEVENSON
Senior registrar

Accident and Emergency Department,
Newcastle General Hospital,
Newcastle upon Tyne NE4 6BE

1 Weston CFM, Penny WJ, Julian DG, on behalf of the British Heart Foundation Working Group. Guidelines for the early management of patients with myocardial infarction. *BMJ* 1994;308:767-71. (19 March.)

2 European Resuscitation Council Basic Life Support Working Group. Guidelines for basic life support. *BMJ* 1993;306:1587-9.

3 GREAT Group. Feasibility, safety, and efficacy of domiciliary thrombolysis by general practitioners: Grampian region early trial. *BMJ* 1992;305:445-8.

4 Pell ACH, Miller HC, Robertson CE, Fox KAA. Effect of "fast track" admission for acute myocardial infarction on delay to thrombolysis. *BMJ* 1992;304:83-7.

5 Burns JMA, Hogg KJ, Rae AP, Hills WS, Dunn FG. Impact of a policy of direct admission to a coronary care unit on use of thrombolytic therapy. *Br Heart J* 1989;61:322-5.

Presentation is often pain free in elderly patients

EDITOR,—Regrettably, guidelines for timely administration of thrombolytic agents in suspected myocardial infarction¹ fail to take cognisance of the fact that about a third of elderly patients with this diagnosis have a pain free presentation, characterised by sudden onset breathlessness, mental confusion, or collapse.² The time of onset of these symptoms, accurately identified, is equivalent to time of onset of chest pain for the purposes of thrombolytic treatment if the diagnosis is subsequently confirmed by electrocardiography. The indications for treatment would be similar to those already in use for patients presenting with chest pain.¹

O M P JOLOBE
Consultant geriatrician

Department of Medicine for the Elderly,
Tameside General Hospital,
Ashton under Lyne OL6 9RW

1 Weston CFM, Penny WJ, Julian DG. Guidelines for the early management of patients with myocardial infarction. *BMJ* 1994;308:767-71. (19 March.)

2 Bayer AG, Chandra JS, Farag RR, Pathy MSJ. Changing presentation of myocardial infarction with increasing age. *J Am Geriatr Soc* 1986;34:263-6.

Confirm diagnosis before giving thrombolytic treatment

EDITOR,—The British Heart Foundation has produced guidelines for the early management of patients with acute myocardial infarction, emphasising the importance of reducing the "call to needle time."¹ We agree with these recommendations, but believe that the diagnosis of acute myocardial infarction should be as certain as possible before thrombolysis can be given safely.

We report an unusual complication after thrombolysis was given to a patient in whom the diagnosis was wrong.

A 34 year old man was transferred from a district hospital to our invasive care unit because of haemodynamic instability after thrombolytic treatment for acute myocardial infarction.

Acute myocardial infarction had been diagnosed on the basis of 1 mm horizontal elevation of the ST segment in leads II and III and AVF and decreased pain after sublingual nitrates.

On arrival in the intensive care unit the patient was complaining of epigastric and left upper abdominal pain that radiated to his shoulder. He was pale and sweating, with blood pressure 120/80 mm Hg and pulse rate 130/min. The lungs were clear, and, except for the tachycardia, an examination of the heart yielded normal findings. Curiously, deep abdominal palpation was associated with moderate pain in the left upper abdomen. An electrocardiogram showed a sinus tachycardia of 120 beats/min. The patient was given intravenous morphine, and his pain disappeared almost completely.

Results of laboratory tests showed that the haemoglobin concentration had fallen to 8.4 g/l. Simultaneously, the patient went into shock. Transfusions and generous fluid treatment were started. Ultrasonographic examination of the abdomen showed splenic laceration and a large haemoperitoneum.

As his coagulation status was incompatible with an immediate operation the patient was given fresh frozen plasma and fibrinogen. Two hours later splenectomy was performed under general anaesthesia. The operation was uneventful, and the patient left hospital a week later. On close questioning he remembered having fallen while skiing four days before admission.

Many signs in this patient's history were not consistent with the diagnosis of acute myocardial infarction; sinus tachycardia is unusual in this setting. Nevertheless, this case is a good example of the risks and pitfalls of overzealous thrombolytic treatment. We suggest that a history of participation in violent sports or possible accidents or falls should be sought before thrombolytic treatment is given.

N MILLIET C DIEM
K HAYOZ F SADRY
E HERRERA V PHILLIPS

Hôpital Cantonal,
1708 Fribourg,
Switzerland

1 Weston CFM, Penny WJ, Julian DG, on behalf of the British Heart Foundation Working Group. Guidelines for the early management of patients with acute myocardial infarction. *BMJ* 1994;308:787-71. (19 March.)

Train relatives to intervene

EDITOR,—In his editorial on myocardial infarction Peter Herbert mentions training in basic life support for the families of patients with heart disease and that this training apparently causes families less anxiety than had been feared.¹ I wish to emphasise the value of targeting such training and to state more positively that anxiety need not be increased (and can even be decreased) in both the patient and his or her relatives. Training in basic life support, including how to call for help, for patients with heart disease and their families makes excellent sense as cardiac death generally occurs out of hospital, with over 60% of fatal attacks occurring in the home.²

Colleagues and I studied the effects of anxiety on training in basic life support for patients with heart disease and their relatives.³ We found that the 49 trainees in the study already had some anxieties; when a coping strategy in the form of training was provided those anxieties were reduced or at least not increased.³ This applied to both the patients and their relatives. We thought it important to

involve the patient as well as the relatives so that the issues were in the open and could be discussed by all parties. (In another study only family members, not the patient, were trained and anxiety in the patients was increased.)⁴

Single session training courses in basic life support are not yet widely available in Britain, but voluntary schemes such as the Bart City Life Saver and Frenchay City Life Saver provide training for the general public that would be suitable for patients with cardiac disease and their families. The British Heart Foundation will help and support local "Heartstart" schemes. Support for the families from general practitioners and hospital doctors is vital so that any anxieties or questions can be dealt with and debriefing is available should a family member attempt resuscitation.

If more cardiac deaths are to be prevented the general public must be trained in what to do in the vital first four minutes and until paramedics arrive with a defibrillator. The suspicion that training in basic life support increases anxiety for patients with heart disease or their family is wrong.

CHRISTOPHER A J MCLAUGHLAN
Accident and emergency consultant

Frenchay Hospital,
Bristol BS16 1LE

- 1 Herbert P. Suspected myocardial infarction and the GP. *BMJ* 1994;308:734-5. (19 March.)
- 2 Tunstall-Pedoe H. A coronary heart register in east London [dissertation]. Ann Arbor: Universal Microfilm International: 78-70,028.
- 3 McLaughlan CAJ, Ward A, Murphy NM, Griffin MJ, Skinner DV, Camm AJ. Resuscitation training for cardiac patients and their relatives—its effect on anxiety. *Resuscitation* 1992;24: 7-11.
- 4 Dracup K, Guzy PM, Taylor SE, Barry J. Cardiopulmonary resuscitation (CPR) training: consequences for family members of high-risk cardiac patients. *Arch Intern Med* 1986;146: 1758-61.

Lack of knowledge is not the problem

EDITOR,—The publication of three short papers¹⁻³ and an editorial⁴ relating to the pre-hospital initiation of aspirin by general practitioners in patients with suspected acute myocardial infarction prompts me to report similar results from a recent study carried out in a relatively rural community in Scotland.⁵ A case series of 107 patients with confirmed myocardial infarction of distinct onset, admitted to a single district general hospital, was reviewed retrospectively. Unlike in urban settings, 97% of the study population had been seen by a general practitioner before admission.

On the basis of hospital case records (which invariably included a referral letter from the attending general practitioner) only 12 patients (11%) were recorded as having definitely been given aspirin by their general practitioner. This was at variance with the findings of an unpublished cross sectional postal survey of 74 local general practitioners (response rate 74%), of which 42 of the 55 responders (76%) indicated that it was their policy always to give aspirin to patients with suspected acute myocardial infarction, in the absence of contraindications. Only three (5%) practitioners indicated that they never gave aspirin in these circumstances. Reasons cited for only sometimes giving aspirin were "forgot to give it"; "patient too ill"; "not always carried in emergency bag"; "patient definitely being admitted to hospital anyway"; "patient already on aspirin"; "refusal by patient"; and "too busy with other, more pressing priorities." Some of these reasons are, of course, perfectly legitimate, but they seem unlikely to be operating in most cases.

From a simplistic point of view, therefore, the low rate of administration of aspirin by general practitioners seems to relate more to attitudes and practices than merely to lack of knowledge. Unfortunately this serves only to underline the complexity of the task facing those who are trying

to promote the widespread implementation of broadly based clinical guidelines.

DAVID BREWSTER
Senior registrar in public health medicine

Common Services Agency for the
Scottish Health Service,
Edinburgh EH5 3SQ

- 1 Moher M, Johnson N. Use of aspirin by general practitioners in suspected acute myocardial infarction. *BMJ* 1994;308:760. (19 March.)
- 2 Wyllie HR, Dunn FG. Prehospital opiate and aspirin administration in patients with suspected acute myocardial infarction. *BMJ* 1994;308:760-1. (19 March.)
- 3 Moher M, Moher D, Havelock P. Survey of whether general practitioners carry aspirin in their doctor's bag. *BMJ* 1994; 308:761-2. (19 March.)
- 4 Herbert P. Suspected myocardial infarction and the general practitioner. *BMJ* 1994;308:734-5. (19 March.)
- 5 Brewster D. Initial management of acute myocardial infarction in a rural area. *Health Bulletin (Edinburgh)* 1993;51:240-50.

Screening for diabetes

EDITOR,—Baldev Singh and colleagues reported the results of the British Diabetic Association's study on the effects of advertising on the general public's awareness of diabetes, and they suggested that this approach should be further evaluated as a means of achieving earlier diagnosis of non-insulin dependent diabetes mellitus.¹ We have doubts about this conclusion.

One of the reasons for these conclusions was that the approach could be cost effective (£1000 per new case of diabetes). This method has a high false positive rate and a low specificity, as of those presenting to the general practitioner, only 17 (17%) were found to have diabetes. The cost does not compare well with other methods and presumably does not include the cost of performing diagnostic tests on the 82 patients without diabetes.²

In terms of achieving an earlier diagnosis of diabetes, the 10 week campaign revealed an additional 17 cases of diabetes. The total population aged 15-75 years subjected to the campaign was approximately 300 500 according to the 1991 population census.³ It has often been assumed that there are as many undiagnosed cases of diabetes as there are diagnosed, and if we assume an overall prevalence of diabetes of 1% (probably an underestimate in this age group) then we would expect that over 3000 cases of diabetes remain undetected. The ability of this campaign to identify only a predicted 22 (0.7%) of these subjects must be disappointing.

In contrast, we have shown in a large study based in general practice that a postal request system with self testing for postprandial glycosuria is an effective method of screening for diabetes.² In a target population of 13 795 subjects aged 45-70 years, 99 new cases of diabetes were identified by this method at a cost of £81 per new case (1990 prices). We have proposed ways in which this cost could be reduced.² We have since shown that this method can be effectively repeated after 30 months, suggesting that public cooperation in repeated testing for diabetes can be maintained.⁴

The current study, as a means of raising public awareness regarding diabetes, seemed to achieve its aim; it may also have been beneficial in terms of reducing anxiety about symptoms of diabetes. However, it does not seem effective in making an early diagnosis of—that is, screening for—non-insulin dependent diabetes. When other more effective and inexpensive methods based in general practice have already been shown to have promising results, stretched resources should firstly be channelled into these approaches.⁵

MELANIE DAVIES
Senior registrar

Leicester Royal Infirmary,
Leicester LE1 5WW

JOHN DAY
Consultant physician

Ipswich Hospital,
Ipswich IP4 5PD