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.

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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.

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Lack of knowledge is not the problem

EDITOR,—The publication of three short papers[1-3] and an editorial[4] 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.

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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]

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