

gained its royal assent on 1 August 1832 bodies from workhouses took the place of those from gallows and graves. The time had already passed when the conscience of the intelligentsia could be appealed to on this issue with any hope of success. More than a century was to pass before bequests could again become a feasible source for dissection.³⁴

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Conference Report

Seconds may count

TESSA RICHARDS

Thrombolytic treatment is being hailed as the second major advance in the management of patients with acute coronary thrombosis (the first was defibrillation). Its potential to reduce the mortality from a disease that kills 160 000 people a year in Britain is well recognised by the pharmaceutical industry.¹

It thus came as something of a surprise to hear, at a meeting organised by the British Heart Foundation, the British Cardiac Society, and The Royal Society of Medicine, that a recent survey of 1000 doctors who look after patients with myocardial infarction found that only 3% routinely gave thrombolytic treatment. Part of the problem is that streptokinase, the preparation used most widely, does not yet have a licence for general use, although it will have within a few months. But there is also a suggestion that some doctors are yet to be convinced of the value of thrombolytic treatment.

This lack of conviction is not from lack of evidence on its efficacy. Several controlled studies carried out in the 1970s and three large

recent studies show that thrombolytic treatment can reduce the early (21 day) mortality from myocardial infarction by about 18%²⁻⁴—provided that it is given within six hours of the onset of chest pain. The importance of early treatment is well shown in the GISSI (Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardico) study, in which the mortality of those treated within an hour was reduced by almost half.

Patients who seem to benefit most from thrombolytic treatment are those presenting with their first infarct, those under 65, and those with electrocardiographic evidence of anterior infarction. The enthusiasts, however, believe that treatment should be given to anyone with clinical signs of infarction irrespective of the electrocardiographic changes as about a third of patients have equivocal changes in early electrocardiographs.

Costs unclear

Intravenous streptokinase (more practicable if slightly less effective than intracoronary streptokinase) has to be given as an intravenous infusion of 1.5 million units over one hour, but at about £80 for each treatment it is considerably cheaper than the possibly more effective alternatives: acylated plasminogen activator (which

can be given as a single intravenous injection) or tissue plasminogen activator. Side effects include bleeding, hypotension, and allergic reactions but are seldom severe. Of course, estimates of the likely cost of thrombolytic treatment also have to take account of how patients are to be managed after they have received treatment and how many may be eligible for treatment.

About half to three quarters of acutely occluded coronary arteries are reopened by thrombolytic treatment, but a fifth reocclude, and of those that remain perfused two thirds are stenosed. If the stenosis is severe patients may need an early operation. The only sure way to identify these patients is to do coronary angiograms on all of them. But facilities for angiography are limited, and recent evidence, based principally on follow up data from the Italian study, suggests that the reduced mortality associated with thrombolytic treatment persists virtually unchanged at one year with few patients needing an operation. A more realistic approach then is to carry out immediate angiography only on those patients whose condition is deemed unstable. Asymptomatic patients should undergo exercise tests either before they leave hospital or a few weeks later so that at least some of those at high risk of reinfarction may be identified and then referred for angiography. Either approach is clearly going to increase the demand for both angiography and exercise testing in units that already lack adequate facilities and suitably trained technicians.

The recruitment rate to the three thrombolytic trials under way in Britain is about 35%, but estimates suggest that nearer half of all patients admitted with chest pain would be eligible for thrombolytic treatment—if only they got to hospital in time. Clearly, therefore, unless we change our approach to managing patients with acute chest pain many people may be denied potentially life saving treatment or receive it at a less than optimum time.

Options for change

How to increase the number of patients getting treatment at the right time was one of the major topics discussed at this suitably multidisciplinary meeting (hospital administrators, general practitioners, ambulancemen, and nurses as well as cardiologists had been invited), and two options were considered: tackle sources of delay and get patients to hospital more quickly or get general practitioners and ambulancemen to start treatment before the patients get there. The latter met with some predictable resistance from the cardiologists. Most believed that general practitioners took too long to get out to patients' homes and assess them and that they could not be relied on to identify those patients, and only those patients, who needed treatment. (There are obvious dangers in giving thrombolytic treatment to patients with, for example, dissecting aneurysms or perforated duodenal ulcers.) Except in rural areas and a few districts where the general practitioner emergency services were recognised to be excellent, it was suggested that general practitioners should be "educated" to accept that they had no role in managing patients with acute chest pain—apart from persuading patients to dial 999 and get themselves to hospital as soon as possible.

Is there any evidence that particular sports or games cause early or unusually severe osteoarthritis in the joints subjected to special stress?

There is no conclusive evidence that any particular sports, in themselves, lead to significant osteoarthritis. Nevertheless, when an injury, that unfortunate byproduct of sport, results in changes in the biomechanics of a joint then osteoarthritis could be likely. The alteration may be primary—for example, in the case of a fracture affecting the joint or where there is significant ligamentous injury—or it may be secondary, occurring, for instance, after a meniscectomy or when there has been inadequate rehabilitation allowing abnormal joint movement under stress. Some biomechanical abnormalities predispose to injury—for instance, genu recurvatum—or to degenerative joint disease such as genu valgum when the prevention of osteoarthritis requires an informed approach to the selection of people for particular sports. We are also uncertain about the long term

Needless to say, the general practitioners disagreed: they claimed that it would be quite feasible for one partner to be free to go to patients with chest pain immediately and initiate thrombolytic treatment at home. Furthermore, they had the added advantage of knowing their patients and hence being more likely to be able to judge if the pain was cardiac or not.

When reservation about the diagnostic ability of ambulancemen was expressed there was more general agreement, and the question of who would take legal responsibility for their actions was raised. Another option considered (one that has met with more enthusiasm in theory than in practice in the past) was to have designated ambulances manned by specially trained medical or nursing staff who could initiate treatment in the patients' homes, stabilise them, and then transfer them to hospital at a controlled pace. An obvious problem here was seen to be the lack of suitably trained staff.

Tackling delay

On balance, most of those at the meeting were in favour of thrombolytic treatment being confined to hospital and given only by trained staff. Hospital accident and emergency departments were acknowledged to be an important cause of delay, and to get round this it was suggested that patients with chest pain should be given special priority, being either started on thrombolytic treatment on the spot or transferred more quickly to the coronary care unit for treatment. In Northampton, which may be typical of many district general hospitals, the median time taken for patients to get from the casualty department to the coronary care unit is 89 minutes (range 2-380).

Alternatively, patients with chest pain could bypass accident and emergency departments altogether. General practitioners and ambulancemen could alert the cardiac care unit that a new patient was on the way, which would give staff time to find a bed. On arrival the patient would go straight to the unit. The fact that this might result in units getting clogged up with patients with pain due to non-cardiac disorders was mentioned only briefly, there being a tacit assumption that treatment would inevitably be given in an appreciable number of "false positive" cases.

The most important cause in the delay in patients with chest pain getting to hospital, however, is the patients themselves. The problem is how to get the message "call for help sooner" across to the right people? Intensive "Healthwatch" schemes in Nottingham succeeded only in increasing the number of patients presenting with non-cardiac pain. The problem was left unresolved.

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effects of the comparatively recent practice of high intensity training of children. Exercise itself, even with the repetitive minor trauma of running,¹ does not lead to osteoarthritis in hip or knee joints nor is osteoarthritis related to the number of years spent running or the total weekly mileage covered. There are problems about interpreting radiological changes, such as minor degrees of lipping, osteophyte formation, or sclerosis, which may be seen in the athlete and classed as osteoarthritic. Long term follow up does not, however, support the view that these changes necessarily lead to osteoarthritis. Certainly, regular exercise,² which many people will take in sporting activities rather than on, say, a static bicycle, helps to preserve function and prolong active life expectancy.—I D ADAMS, consultant physician, Leeds.

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