Guidelines for admitting patients with myocardial infarction to hospital

FROM THE COUNCIL OF THE ROYAL COLLEGE OF GENERAL PRACTITIONERS

TO take the view that all patients with myocardial infarction should be treated at home implies not only that all homes are suitable for the care of the sick, but also that ' coronary care ' is valueless.

The view that all patients with infarction should be treated in hospital implies not only that they will benefit from being there, but ignores the economic consequences. Although the number of coronary care units has increased, both they and mobile services are by no means universally available. These guidelines are intended to assist general practitioners to decide whether or not patients with myocardial infarction should be admitted to hospital.

Some facts are now well established and can form a rational basis for decision-making:

(1) The risk of death is greatest at the time of infarction and then progressively diminishes.

(2) Death within the first 24 hours is often due to functional cardiac arrest: death from this cause may be associated with antecedent arrhythmia.

(3) Serious disturbance of cardiac function is indicated by persistent pain, hypotension, or cardiac failure and is associated with a grave prognosis.

(4) Minimal disturbance of cardiac function is indicated by short-lived, trivial, or absent pain, normal blood pressure, regular rhythm and no evidence of cardiac failure and is associated with a good prognosis.

The main factors which should be considered in making a decision to admit a patient to hospital are:

(a) The time which has elapsed since infarction occurred,
(b) The severity of the infarct,
(c) The presence of dysrhythmia,
(d) The age of the patient,
(e) The social circumstances,
(f) The site of onset of symptoms.

TABLE 1
MAIN FACTORS INVOLVED IN DECIDING ON HOSPITAL ADMISSION

	For hospital	*Against hospital*
(1) Time	Recent onset	Onset > 12 hrs ago
(2) Severity	Moderate/severe	Mild
(3) Dysrhythmia	M.V.E.S.	Regular
(4) Age	Relatively young	Old
(5) Monitored bed/cardiac ambulance	Available	Not available
(6) Social circumstances	Inadequate	Adequate
(7) Place of onset	Away from home	Home

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(1) *Time elapsed since infarction*

In about 25 per cent of all infarcts the symptoms at the time of infarction are so trivial that the patient does not seek medical aid (Fry, 1968; McCormick, 1969). Most commonly the patient presents with angina of effort but sometimes the existence of an unsuspected infarct is discovered at routine cardiography. It is uncommon in this self-selected group to find serious disturbance of function, and they can be safely managed at home.

Because it is impossible to predict accurately the onset of ventricular fibrillation, although multiple ventricular extrasystoles are an important indicator, patients seen within hours of infarction should be monitored unless there are strong contra-indications.

This implies that a coronary care or other similar unit is available: there is little point in admitting cases in stable rhythm without disturbance of function into an ordinary ward bed.

The greater the time that has elapsed since infarction, the weaker the indication for hospital admission.

(2) *The severity of the infarct*

Active treatment of arrhythmias, particularly bradycardia, may reduce the extent of muscle damage by improving the collateral circulation, as may management of autonomic and biochemical disorder. Such management may significantly reduce the incidence of shock and pump failure (Adgey *et al.*, 1971).

When disturbance of function is minimal, there is nothing to be gained, except speedy defibrillation, by admission to a coronary care unit.

When disturbance of function is grave, it can be argued that a journey to hospital further prejudices the chance of survival.

(3) *The presence of dysrhythmia*

Multiple ventricular extrasystoles are a herald of ventricular fibrillation and an indication for monitoring: this is particularly true in the early stages. Reference has already been made to bradycardia which is correctable by atropine.

(4) *Age*

When resources are limited, they must be used selectively. It can be argued that in the elderly infarction is more likely to be a result of extensive arterial disease and certainly, by virtue of their age alone, their life expectancy is diminished. It has also been suggested that the elderly are more likely to be distressed and disturbed by hospital admission and increased endogenous catecholamine excretion may be actively harmful.

The elderly are also more likely to suffer from co-existent disease which may either reduce the benefit likely to be derived from hospital care or complicate their management at home.

(5) *Social circumstances*

Social circumstances will often preclude domiciliary management. Few husbands are both capable of and in a position to care for their wives and, while wives may readily accept the burden of caring for their husbands, caring for somebody who has recently suffered a myocardial infarction may impose a great emotional strain.

(6) *Site of onset of symptoms*

If the initial consultation is at the patient's place of work, in the street or in the consulting room, the dangers of transporting the patient make it almost mandatory to admit the patient directly to hospital.

Conclusion

The decision whether or not to admit a patient demands judgment. Some of the factors which should be considered in making this decision are listed in table 1.

Despite the Bristol study (Mather *et al.*, 1971) there are, predictably, no clear directives. It may well be impossible to design and implement a satisfactory controlled trial and we hope that these guidelines may help in decision-making.

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