EARLY HOSPITAL DISCHARGE FOR MALE PATIENTS WITH UNCOMPLICATED MYOCARDIAL INFARCTION

J Cheng
J H Kho
A Chan

Coronary Care Unit
Tan Hock Seng Hospital
Moulmein Road
Singapore 1130

J Cheng, MRCP
Registrar

J H Kho, Dr Med
Ag Registrar

A Chan, M Med, Dip Cardiol, AM
Consultant

A total of 68 consecutive male patients with uncomplicated myocardial infarction admitted to our CCU were included in a prospective study to assess feasibility for early hospital discharge. Of these, 34 (Group 1) were discharged on the fifth day while another 34 (Group 2) were discharged on the tenth-day. All patients were followed for at least 6 months. The patients in Group 1 fared no worse than those in Group 2 in respect of mortality, readmission rate and complications.

From these findings, we conclude that there is no additional benefit to the patient with an uncomplicated myocardial infarct from a 10 day as compared to a 5 day hospital stay.

INTRODUCTION

It has been established that 60 to 80% of deaths from myocardial infarction (M.I.) occur within 12 hours of the onset of symptoms (1, 2). The majority of these deaths occur before the patients reach hospital (3). Since the mortality of survivors of the acute coronary event is markedly reduced after the first 12 hours and that some studies suggested that patients with M.I. may be cared for at home (4,5), we studied the effect of a hospital stay of only 5 days for male survivors of uncomplicated M.I.

20 years ago, patients were kept in hospital for an average of 6 weeks based on the pathological studies of Mallory et al (6) who showed that it required about 6 weeks for the necrotic myocardial region to be transformed into firm scar tissue. The demonstration by Levine and Lown (7) that patients could be safely moved into a chair early after an infarction led to earlier hospital discharge. Later studies at Duke University (8,9) and Northern Europe (10) provided evidence that patients with uncomplicated M.I. who stayed in hospital for 7 to 8 days showed no difference in mortality and morbidity when compared to controls with longer hospitalisation. Since a substantial proportion of patients with M.I. fall into the "good risk" category, we hoped to show from our study that a shorter period of hospitalisation would be feasible without medical compromise.

MATERIALS AND METHODS

The feasibility of early discharge was evaluated in a consecutive population of 68 male patients studied in 1983/84. All had sustained a definite M.I. and were admitted to the CCU within 24 hours of symptom onset. A definite diagnosis of M.I. was made when at least 2 out of the following criteria were met: typical severe chest pain, typical infarction ECG changes and elevated cardiac enzyme levels (creatine kinase, aspartate aminotransferase or lactate dehydrogenase). Patients with subendocardial infarction were also included. Patients were typically monitored in the CCU for 48 hours and then sent to an intermediate coronary care observation ward. This ward is designed for male patients only, as such female patients were not studied as they were managed in other wards by doctors of other Medical Units of the hospital.

The main study population consisted of 34 consecutive patients (Group 1) admitted to the CCU in a 6 month period. These patients were assessed and reviewed by the authors upon admission and on leaving the CCU. A second group (Group 2) of 34 consecutive patients admitted over another 6 month period was used as controls and treated according to the same criteria as group 1 but were discharged according to the current hospital discharge policy of at least 10 days hospital stay.

The following are the variables used in deciding whether a patient was an uncomplicated case. The presence of any of these would exclude him from the study.

1. Congestive heart failure
2. Pulmonary edema
3. Cardiac arrest
4. Cardiogenic shock
5. A-V block (second and third degree)
6. Important cardiac arrhythmias
7. Continuing ischaemia
8. Other concurrent serious illness

Patients who did not have a supportive home or environment to return to were also excluded. Routine investigative and therapeutic procedures were carried out. Those with infrequent V.E's were given lignocaine by drip and were switched to oral procainamide or disopyramide upon stopping Lignocaine and discharged with continued therapy for 6 weeks. The patients were not given beta-blockers routinely.

The patients were followed up in the outpatient clinic for at least 6 months after discharge at monthly intervals initially and then 2 monthly. On each occasion, specific inquiries were made about effort tolerance, chest pain and any subsequent treatment received. In addition, a thorough examination and ECG were carried out.

Statistical Analysis

Mortality and morbidity over 6 months for the patients in Group 1 were compared with those in Group 2 by the Test of Proportions. A p level of < 0.05 was the criterion for statistical significance.

RESULTS

1. Mortality

The first 6 months after hospitalisation have been reported as the period of greatest mortality risk (11, 12), with a considerable reduction in mortality thereafter. During the 6 months after hospital stay, none of our patients in Group 1 died (Table 3) while there were 2 deaths from Group 2. This difference is not statistically significant.

TABLE 1
COMPARISON OF INITIAL CHARACTERISTICS OF THE 2 GROUPS

CHARACTERISTIC		Short Stay (34)	Control (34)
Population			
Age (Years)	Range	39 — 80	34 — 84
	Average	60.2	57.4
Race	Chinese	19 (55.9%)	17 (50.0%)
	Indian	6 (17.6%)	8 (23.5%)
	Malay	9 (26.5%)	9 (26.5%)
Previous History			
Past history of IHD		24 (71%)	7 (20%)
Previous infarct		6 (18%)	3 (09%)
Hypertension		12 (35%)	13 (38%)
Diabetes		8 (24%)	11 (32%)
Smoking		25 (74%)	25 (74%)
Combination of two or more of above		34 (100%)	31 (91%)

TABLE 2: TYPE OF INFARCT

	Short Stay (Group 1)	Control (Group 2)
Anterior	8	13
Inferior/Posterior	10	10
Lateral	8	5
Extensive	2	1
Subendocardial	6	5
	34	34

TABLE 3: OUTCOME AT SIX MONTHS AFTER UNCOMPLICATED M.I.

	Group 1	Group 2
Mortality at six months	0 (00.0%)	2 (05.9%)
Morbidity: Reinfarction	1 (02.9%)	2 (05.9%)
Angina	6 (17.6%)	8 (23.5%)
Heart Failure	4 (11.7%)	3 (08.8%)
Rehospitalised	4 (11.7%)	6 (17.0%)

2. Morbidity

During the first 6 months of post-hospitalisation period, 6 of the patients in Group 1 had angina while one had a reinfarct. A total of 4 (12%) of these were readmitted to hospital. In Group 2, 8 of the patients suffered from angina while 3 had reinfarction. 6 (17%) of these required readmission. The difference between the two groups did not reach statistical significance in any of the indices examined.

DISCUSSION

Table 1 shows that the population groups were comparable in respect of age, race, past history and site of infarction. The results of this study indicate no apparent additional benefit to the patient with an uncomplicated M.I. from a 10 day as compared to a 5 day hospital stay. We found no significant difference between the two groups in morbidity such as the development of angina, CCF and acute coronary events. No patients died in the 6 months after discharge in the 'short stay' group while there were 2 deaths in the 10 day hospitalisation group.

Although our study suggests that prolongation of hospital stay beyond 5 days confers no advantage, it is

noted that these patients were attended to early and assessed by the Registrar/Physician of the CCU and met all the criteria for an uncomplicated course. We were careful to exclude any patient who had serious arrhythmias, definite heart block, persistent sinus tachycardia, hypotension, ventricular aneurysm (X-ray evidence), persistent chest pain or heart failure. Such patients would obviously benefit from a prolonged hospitalisation with a more gradual mobilisation program.

Comparing our findings with those reported in the literature, we have no evidence that the shorter hospital stay adversely affected post hospitalisation morbidity and mortality. The abbreviated stay would yield substantial savings in medical funds and hospital bed utilisation without diminishing the quality of clinical care of the individual patient who would also benefit psychologically, especially in preventing the development of cardiac neurosis.

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