WORK AFTER MYOCARDIAL INFARCTION

By Albert S. T. Wee, A.M., M.B. (Melb.), M.R.C.P., M.R.C.P.E.

(Medical Unit, Thomson Road, General Hospital, Singapore)

There have been many reports from various centres in the world dealing with the effect and outcome of an attack of myocardial infarction on the working man's life. Master and Dack (1940) from the U.S.A. recorded an overall return to work of 53% but more recently Sharland (1964), Biorck (1964) place the figure closer to 80% after the acute episode is survived.

The object of this study is to record the findings of the effect of myocardial infarction on the working status of men who were known to be employed at the time of the attack.

METHOD

The mortality of myocardial infarction as seen at Thomson Road General Hospital is close to 20% in the first two months. Thus about one in every five patients died within two months of the attack and 40% of these deaths occurred in the first 48 hours of admission to hospital.

Of the survivors, 115 were men who were known to be gainfully employed at the time of the attack. These 115 men were selected for study in an attempt to evaluate the effect of the heart attack on their working status and capacity afterwards. All were followed up for a minimum period of 6 months after the attack and the majority are still attending our ischaemic heart clinic.

RESULTS

Age and Ethnic Groups (Table I)

The youngest was a Malay hospital attendant aged 27 and the oldest a 71 year old Chinese trishaw-rider. 17 patients (15%) were under 40 years but the majority (72%) were in the 40-59 age group. The mean age for the group was 49 years. As noted in a previous study (Wee, Jayaratnam and Seah, 1967) there was a heavy predominance of Indians (46%) while Chinese formed 38% and Malays and other races constituted the minority. There was also a significantly larger proportion of young Indians (under 39 years) than Chinese.

Return to Work (Table II)

The majority of men who were able to return to work had done so within 3 months after the attack. At 6 months after infarction it was noted that 80% (93 of the 115 patients) had returned to some form of work. Of this number 12 had changed to lighter or less strenuous work.

18 patients or 16% stopped work altogether, half of whom were of retiring age anyway.

Age and Return to Work (Table III)

As would be expected, the younger the age at the time of infarction, the more likely the return to work. In the under 40 group, 16 out of 17 returned back to the previous job and the seventeenth changed to a lighter job.

On the other hand, 7 out of the fifteen patients who had their attack over the age of 60 stopped working subsequently.

Physical Activity of Occupation and Return to Work (Table IV)

Patients were classified into three groups according to the amount of physical activity the work entailed. Labourers and other occupations requiring moderate to severe activity were in the first group. White collar workers, professional men were placed in the third group while the intermediate group consisted of those with only mild to moderate physical exertion.

It was found that those doing manual labour had a higher work drop-out rate. 6 (21%) out of 29 labourers had to stop work altogether, while a further 2 found lighter jobs. Only 14% of the light and intermediate workers had to stop work while none of the men with already sedentary jobs had to change to alternative work. The larger proportion of work drop-outs among the heavy labourer group is probably due to difficulty of retraining into lighter skilled jobs and not due to any actual medical factors.

Other Factors affecting Return to Work

The presence of hypertension (seen in 30% of this series) and of diabetes mellitus (23% of this series) did not appear to influence the incidence of returning to work. However the complications of infarction were important factors causing stopping of work or a change to lighter duty. Cerebral embolism causing hemiplegia, intractible cardiac failure, frequent chest pains and recurrent infarctions were among the more

TABLE I

MYOCARDIAL INFARCTION IN WORKING MEN AGE AND ETHNIC GROUPS

Youngest = 27 years Oldest = 71 years
Mean Age = 49 years

Age	Chinese	Indian	Malay and Others	Total
Under 40 years	4	8	5	17 (15%)
40-49	14	19	8	41 } (72%)
50-59	15	24	3	42 }
60+	11	2	2	15 (13%)
Total	44 (38%)	53 (46%)	18 (16%)	115 (100%)

TABLE II

RETURN TO WORK AT 6 MONTHS AFTER M. INFARCTION

	Patients	Percent
Number stopped working	18	16%
Changed job	12	10·4%
Not known	4	3·5%
Back at same work	81	70%
Total	115	100%
Total number working at 6 months	93	80·4%

TABLE III

AGE AND RETURN TO WORK AFTER MYOCARDIAL INFARCTION

Age	Stopped Working	Changed Job	Back at same work	Total
Under 40 years	—	1	16	17
40-49	4	6	30	40
50-59	7	4	29	40
60+	7	1	7	15

TABLE IV

PHYSICAL ACTIVITY OF OCCUPATION AND RETURN TO WORK

Type of Work	Stopped Working	Changed Job	Back at same Work	Total
Heavy work (Labourer)	6 (21%)	2	18	29 (25%)
Intermediate	8 (14%)	10	39	58 (50%)
Light, sedentary Work	4 (14%)	—	24	28 (25%)

TABLE V

FUNCTIONAL CLASSIFICATION OF PATIENTS AFTER INFARCTION

(American Heart Association 1953)

	No.
Class 1: No limitation of physical activity.	29 (25%)
Class 2: Slight limitation of physical activity. Comfortable at rest and mild exertion.	59 (52%)
Class 3: Marked limitation of physical activity. Comfortable at rest.	25 (22%)
Class 4: Inability to carry on any physical activity without discomfort. Symptoms even at rest.	2 (1%)

TABLE VI

COMPARISON WITH OTHER CENTRES; WORK AFTER INFARCTION

AT 6 MONTHS

	Stopped Working	Changed Job	Back at same Work	Total Back at work
U.K. (Sharland 1964)	17%	25%	58%	83%
U.S.A. (Shapiro 1966)	15%	22%	63%	85%
Sweden (Biorck 1964)	17%	25%	58%	83%
Present Study	16%	10%	70%	80%

important causes of disability and discontinuation of work. There were a number of patients who despite considerable disability, were able to return to work because of the strong motivation of financial support.

Functional Status of the Patients after Infarction (Table V)

Patients were classified on their functional disability on recovery after infarction, according to guiding principles laid by the American Heart Association (1953). It was noted that 77% of the patients had either no limitation of physical activity or symptoms only on mild exertion and activity. Only 2 patients were completely disabled with symptoms even at rest.

Mortality

There were 11 recorded deaths in this series of 115 patients. 4 of the deaths were within the 12 months while the remainder occurred at a varying period from one to 6 years after the infarction. There was no record of any deaths occurring while a patient was actively involved in exertion at work.

Comparison with other Centres (Table VI)

Data recorded from centres in U.K., U.S.A. and Sweden have shown a remarkable similarity in the proportion of patients returned to work after myocardial infarction. This is in spite of wide differences in the composition of the groups, in the geography and socio-economic factors. About 4 out of 5 patients who survived the acute attack are able to return to some form of gainful employment after the attack. The proportion of men who have changed jobs is less in our study when compared with the other centres presumably because the level of under-employment in our society is such that it would not be feasible to switch to lighter jobs as easily as in Western countries. Our local figures are also surprising in view of the lack of a "Cardiac Work Assessment Centre" such as seen in Australia, U.K., Sweden and the United States.

More important it has been shown as in various other studies that contrary to previous ideas, return to work after an attack had no obvious harmful effects. The mortality rate after infarction was in fact less in the patients who returned to work compared with a control group who did not work again (Stein and Altman, 1965) although this may be the result of other selective factors. On the contrary, our ideas of myocardial infarction have modified to the extent that we are beginning to recognise the occurrence of mild attacks or even 'silent' infarcts, in which patients the long term prognosis after the acute phase is good (Cole et al, 1954). With careful medical supervision, it has been shown that work appropriate to the cardiac status results in the long run in less harm than inactivity itself, from which the psychological and socio-economic consequences may be disastrous for the family and the community (W.H.O. 1964).

CONCLUSION

In a study of 115 men known to be gainfully employed at the time of myocardial infarction, and who survived the first 2 months of the acute attack, 80% were able to return to some form of work within 6 months. The majority were able to return to the former employment. The older men had a higher drop-out rate whereas all those under 40 were able to return to work. The heavy manual workers were unable to return to employment mainly because of inability to adapt to other skills. 77% of the total number had mild or no symptoms after the attack. There were no recorded deaths directly attributable to return to work.

The majority of men are able to and will do useful work after recovery from hyocardial infarction.

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