

Acute Myocardial Infarction in Fiji

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INTRODUCTION

Fiji is a multiracial country with a population of just over 500,000. People of Indian origin comprise 51% and indigenous Fijians 42% of this number. Europeans, Chinese and other Pacific Islanders form the remaining 7%. It has been evident from clinical observations that more Indians suffer from ischaemic heart disease than the Fijians. This retrospective study was taken to ascertain aspects of acute myocardial infarction in Fiji, namely racial prevalence, clinical features, risk factors, and in particular complications and mortality, before the opening of a new coronary care unit.

MATERIAL

All the material was derived from the C.W.M. Hospital, Suva, the largest hospital in Fiji, draining a population of over 160,000. Case histories of all patients admitted during 1969-71 were thoroughly scrutinised and only those cases were included in the survey who had definite electrocardiographic changes and/or enzyme changes. In those who died before an electrocardiogram or enzyme studies could be done, clinical diagnosis was confirmed at autopsy.

All the patients were admitted to one of the three general medical wards and were treated with complete bed rest for a period ranging from five to eight days and they received analgesics as indicated. Most patients received oral anticoagulants (Phenindione) during their stay in the hospital. A 12-lead electrocardiogram was taken shortly after admission and other appropriate tests including full blood count, serum transaminase and cholesterol were done. In some cases, serum transaminase estimation was not possible. Incomplete information in some cases was recorded especially in respect of occupation, family history and previous history of ischaemic heart disease.

RESULTS

Race and Sex Incidence

There were 227 cases, of these 202(89%) patients were Indians, 12(5%) were Fijians, 11(5%) were Europeans and 2(1%) were Chinese. — (Table I).

Male to female ratio was 4:1, there being 186(81%) males, and 41(19%) females. (This ratio of 4:1 was maintained in all age groups over 40.

TABLE I
Race and Sex Incidence in relation to Population

Race	Male	Female	Total	Male:Female Ratio	Population (over 20 yrs.)	Prevalence
Indians	166	36	202(89%)	4:1	32,000	6.03
Fijians	11	1	12 (5%)	11:1	32,000	0.37
Europeans	7	4	11 (5%))) 8,500)
Chinese	2	—	2 (1%)))) 1.05
Total	186(81%)	41(19%)	227	4:1	72,500	

Age Incidence

The youngest patient was 27 and the oldest 90 years. The average age of all patients was 54 years. 53% were between the ages of 30 and 55 years. There was no one female below 40 and only 9 below 50. The only Fijian woman included in the survey was 80 years old.

Occupation

Men in various occupations were allotted to one of the four groups (Table II). In 40 the nature

of occupation was not recorded. Almost equal number of infarcts occurred in heavy manual workers and sedantary occupations. However, no firm conclusion could be drawn due to insufficient data being available about occupation distribution in the population.

MODE OF PRESENTATION

194(87%) had classical symptoms with spontaneous retrosternal pain, with or without radiation lasting for more than half an hour. It is interesting to

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TABLE V
Death by Age, Sex and Race

AGE	INDIANS		FIJIANS		EUROPEANS	
	Males	Females	Males	Females	Males	Females
20 - 29	—	—	—	—	—	—
30 - 39	1	—	—	—	—	—
40 - 49	6	3	—	—	—	—
50 - 59	9	1	1	—	—	—
60 - 69	6	1	2	—	1	—
70 and over	3	2	—	—	2	1
TOTAL	25	6	3	—	3	1

Overall mortality 38(16%)

DISCUSSION

In this series 89% were Indians and only 5% Fijians. The male to female ratio of 4:1 is similar to that given by Wood (1962) and slightly higher than 3:1 given by Friedberg (1966). The average age in this series of 54 years is lower than that of 64.3 reported by Bailey and Beaven (1968). Myocardial infarction is rare before menopause. Of 9 of our patients who were below the age of 50, only one was premenopausal. This patient had diabetes, hypertension and was obese.

On an average it took 10 hours for the patients to be hospitalised. This rather long delay in most cases was patient delay, in some cases transport difficulties and in a few administrative delay.

Hypercholesterolaemia and cigarette smoking were the two most important risk factors accounting for higher incidence of infarcts among the Indians. Indians also have a high incidence of diabetes, the incidence being 5.7% in Indian and 0.6% in Fijians (Cassidy, 1967). Incidence of hypertension is also higher in Indians. Of the patients attending hypertension clinic at the same hospital 66% were Indians and 33% Fijians.

Consumption of saturated fat in form of ghee and butter is high among Indians than Fijians. Wilmott (1971) found that fats accounted for 28.0% and carbohydrate 61.9% of an average Indian diet and in an average Fijian diet 16.0% and 75.8% respectively. Habit of cigarette smoking is common among the Indian males who start smoking at an early age.

Most of the deaths in infarcts occur in the first few hours and of the patients admitted to hospital the mortality rate varies from 19% (Wood 1962) to 37% (Bailey and Beaven 1968).

In this series the mortality rate was 16%. This low mortality could be accounted for by delayed admissions of the patients to the hospital.

CONCLUSIONS

A three year retrospective study was carried on 227 patients with acute myocardial infarction at the C.W.M. Hospital, Suva. The study revealed a high prevalence of myocardial infarction (6.3 per thousand) and at an early age, and among Indians and very low prevalence among the Fijians (0.37 per thousand). Most patients presented with chest pain. There was a long delay of an average of 10 hours before hospitalisation.

The major risk factors are hypercholesterolaemia, cigarette smoking, hypertension, diabetes and obesity. The overall mortality rate was 16%, a low figure probably accounted for by delayed admission the hospital.

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