

## Myocardial Infarction in Singapore: A Nationwide 10-year Study of Multiethnic Differences in Incidence and Mortality

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### Abstract

**Introduction and Methods:** Cardiovascular diseases have progressively increased in importance as a major contributor of morbidity and mortality in Asia. However, many countries in Asia do not have nationwide systematically-collected and standardised data on myocardial infarction (MI). To accurately document the extent of atherosclerotic coronary heart disease in Singapore, a nationwide myocardial infarct registry was established in the mid-1986. Possible myocardial infarct events were identified through daily national lists of cardiac enzymes, hospital discharge codes, mortuary records and the national death registry. Data obtained from clinical history, cardiac enzymes and 12-lead electrocardiogram Minnesota codes were entered into an algorithm based on the WHO MONICA study. Cases identified as “definite” MI were included in the decade’s review for this study. **Results:** From 1988 to 1997, 13,048 myocardial infarct events were diagnosed with 3367 deaths. There was a 39.1% decline in mortality, with an average decline of 6.5% per year [95% confidence intervals (CI), -3.9% to -9.1%]. However, the decline in incidence was only 20.8% with an average decline of 2.4% per year (95% CI, -6.6% to -1.2%). The highest incidence and mortality rates for both genders were seen in the Indians, followed by the Malays and the Chinese. **Conclusion:** Over 10 years, from 1988 to 1997, we documented a significant fall in mortality from MI in Singapore. There was a smaller decline in the incidence of infarction. Singapore implemented a National Healthy Lifestyle Programme in 1992 as a 10-year effort. The disparity in the incidence and mortality may suggest that a more dramatic and immediate impact has taken place in mortality through therapeutic programmes; primary preventive programmes would be more difficult to evaluate and have a more gradual impact. Only with continual accurate data collection through the whole country, over a much longer period, can the relative value of preventive and therapeutic programmes in coronary heart disease be assessed.

*Ann Acad Med Singapore* 2002; 31:479-86

**Key words:** Decline, Mortality, Lifestyles programme, SMIR, Therapeutic programme, WHO MONICA Study

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