IMPACT OF SEX AND ITS INTERACTION WITH AGE AND DIABETES ON LONG-TERM SURVIVAL AFTER MYOCARDIAL INFARCTION IN AN ASIAN COHORT OF 13,389 PATIENTS

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Background: The joint effects of sex, age and diabetes mellitus on long-term outcomes following myocardial infarction (MI) are unclear. Data are limited among Asian populations. We investigated the impact of sex and its interaction with age and risk factors on long-term outcomes following MI in a population-based cohort of Asian patients.

Methods: We analyzed retrospectively all patients hospitalized for MI under the nationwide universal healthcare system in Singapore. A total of 13,389 patients (9,969 men and 3,420 women) were alive at 30 days after the index MI hospitalization during January 2000 to December 2005. All-cause death occurring up to 1st March 2012 was ascertained through linkage with the Singapore National Registry of Birth and Deaths. The hazard ratio (HR) for death and its 95% confidence interval (CI) were calculated by Cox regression.

Results: At hospitalization for MI, women were older (median 70 years versus 58 years, P<0.001), and more often diabetic (52.0% versus 31.7%, P<0.001) compared to men. There were 2,649 deaths over a median follow-up duration of 7.8 years (maximum 12 years). Women had a higher risk of long-term death following MI than men, even after adjustment for clinical covariates (adjusted HR=1.92, 95% CI=1.16 to 3.18). There were notable interactions between sex, age and diabetes (all Pinteraction <0.02). In an age-stratified analysis, female sex was no longer a significant risk factor beyond 60 years of age. Men and women without diabetes had an almost identical long-term mortality risk (adjusted HR=1.02, 95% CI=0.90 to 1.15) while diabetic women had a statistically significant higher death rate compared to diabetic men (adjusted HR=1.17, 95% CI=1.05 to 1.31). The increased risk in diabetic women was greater among women <60 years of age compared with women > 60 years of age (adjusted HR=1.43, 95% CI=1.08 to 1.91).

Conclusion: Our population-based data demonstrate a strikingly high prevalence of diabetes mellitus among Asian women with MI and underscore the excess risk of long-term mortality among these women. Young diabetic women with MI are a particularly high risk group deserving special attention.