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Impact of Silent Myocardial Ischemia on One Year Mortality after Successful Coronary Intervention: Data from Japanese Multicenter (KICS) Registry

K. Motozato[1], K. Sakamoto[1], K. Nakao[2], K. Fujimoto[3], Y. Miyao[3], H. Shimomura[4], R. Tsunoda[5], R. Sato[1], S. Nagamatsu[1], T. Yamashita[1], K. Kaikita[1], K. Tsujita[1]

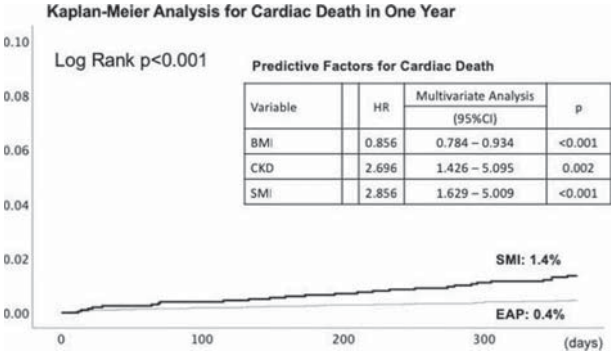
[1]Kumamoto University Hospital, Kumamoto, Japan; [2]Saiseikai Kumamoto Hospital, Kumamoto, Japan; [3]National Hospital Organization Kumamaoto Medical Center, Kumamoto, Japan; [4]Tokusyukai Hospital, Fukuoka, Japan; [5]Kumamoto Red Cross Hospital, Kumamoto, Japan

Introduction: Under the awareness of appropriate use criteria, the significance of PCI for the patients with silent myocardial ischemia (SMI) decreases. On the other hand, the prognoses of SMI patients have been reported to be equivalent to those of symptomatic effort angina pectoris (EAP) patients. We aimed to clarify the prognosis of SMI after PCI and elucidate the factors influencing the mortality.

Methods: The Kumamoto Intervention Conference Study is multicenter registry enrolling consecutive patients undergoing PCI in 16 centers in Japan. Overall, 17,688 consecutive patients were enrolled during April 2008 to March 2017. To compare the clinical events between SMI and EAP, 8,278 subjects, excluding acute coronary syndrome, post successful PCI were enrolled with 1-year follow-up data.

Results: In this study, 2,071 patients were classified as SMI and 6,207 patients were EAP. Male, lower body mass index (BMI), diabetes, chronic kidney disease (CKD), smoking habits, prior myocardial infarction (MI), composite of cerebrovascular disease and composite of peripheral arterial disease were all significantly higher in the SMI group. Although nonfatal MI and stent thrombosisduring 12-monthswere comparable between the 2 groups, all-cause mortality and cardiac death during 12-months were significantly higher in the SMI group than in the EAP group (3.9% vs 1.8%, $p<0.001$, 1.4% vs 0.5%, $p<0.001$, respectively). On the other hand, Repeat Revascularization rate during 12-months was significantly lower in the SMI group than in the EAP group (15.7% vs 19.5%, $p<0.001$).Kaplan-Meier analysis for cardiac death showed a significant difference between the 2 groups (Figure). In a multiple logistic regression analysis, in addition to lower BMI and CKD, SMI was an independent predictor for cardiac death. Even after adjustment by propensity-score matching with predictive factors for cardiac event, SMI showed a higher cardiac death rate compared with EAP (1.4% vs 0.5%, p=0.004), and it remained as a significant predictor.

Conclusion: In this study, SMI itself was associated with higher mortality after PCI. Strict follow-up and assessment of residual ischemia should be necessary for SMI patients.



Predictive Factors for Cardiac Death

Variable	HR	Multivariate Analysis (95%CI)	p
BMI	0.856	0.784 – 0.934	<0.001
CKD	2.696	1.426 – 5.095	0.002
SMI	2.856	1.629 – 5.009	<0.001