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Mental stress underestimation and ischemic heart disease: A Japan collaborative cohort study

Patraphol Panitvorapume

Iso Hiroyasu, Osaka, Japan

Background: Several studies have demonstrated that mental stress is associated with ischemic heart disease(IHD). However, association between mental stress underestimation (MSU) and IHD is unknown. Our aim was to implement a new method of calculating MSU and clarify the association.

Method: We performed a retrospective cohort of the Japan Collaborative Cohort Study (JACC Study). Statistical calculations were conducted using Statistical Analysis Software. 110,972 subjects (46,465 men and 64,327 women), aged 40 to 79 years at baseline, were eligible for follow-up. Propensity scores of answering yes to the stress question were calculated from the logistic regression between stress question and other 7 mental questions. Subjects with propensity score less than 0.01 were considered to be underestimating mental stress. Cox regression was performed after adjusting confounders.

Results: We found that mortality risk from IHD significantly increased in stress underestimating women(1.59, 95%CI 1.07 to 2.38). No statistically significant increase in mortality risk was found in men.

Limitations: There was no direct evidence that support the association between the 7 mental questions and MSU. However, a significantly larger proportion of subjects with propensity score less than 0.01 answered no to the stress question and thus justified the cut-off.

Conclusion: Mental stress underestimation may increase mortality from ischemic heart disease.

yuukikagaku@hotmail.com