Prevalence, extent, and independent predictors of silent myocardial infarction


BACKGROUND
The phenomenon of silent myocardial infarction is poorly understood.

METHODS
We aimed to evaluate the prevalence, extent, and independent predictors of silent myocardial infarction in 2 large independent cohorts of consecutive patients without a history of myocardial infarction referred for rest/stress myocardial perfusion single photon emission computed tomography. There were 1621 patients enrolled in the derivation cohort and 338 patients in the validation cohort. Silent myocardial infarction was diagnosed in patients with a myocardial scar ≥5% of the left ventricle.

RESULTS
In the derivation cohort, the prevalence of silent myocardial infarction was 23.3% (n = 377). The median infarct size was 10% (interquartile range [IQR] 5%-15%) of the left ventricle. The prevalence of silent myocardial infarction was 28.5% in diabetics and 21.5% in nondiabetics (P = .004). Diabetes mellitus was an independent predictor for the presence of silent myocardial infarction (odds ratio 1.5; 95% confidence interval, 1.1-1.9; P = .004). These findings were confirmed in the independent validation cohort. In the validation cohort, the prevalence of silent myocardial infarction was 26.3% (n = 89), while the prevalence was higher in diabetics (35.8%) than in nondiabetics (24%; P = .049). The median infarct size was 11.8% (IQR 5.9%-17.6%) of the left ventricle. Again, in logistic regression analysis, diabetes mellitus was a significant predictor of the presence of silent myocardial infarction.

CONCLUSION
Silent myocardial infarctions are more common than previously thought. One of 4 patients with suspected coronary artery disease had experienced a silent myocardial infarction; the extent in average is 10% of the left ventricle, and it is more common in diabetics.