Objective: To evaluate the predictive value of epicardial fat thickness (EFT) in CHA2DS2-VASc (congestive heart failure, hypertension, age >75 years, diabetes mellitus, previous stroke or transient ischemic attack, vascular disease, age 65-74 years, sex category) score risk groups. Methods: A total of 158 consecutive patients (75 females, 83 males, mean age 70.8±6.3 years) admitted routinely for cardiologic control were divided into two groups according to their CHA2DS2-VASc scores (scores 0 and 1 were regarded as low risk, and score ≥2 as high risk). One hundred twenty-five of 158 patients had a high-risk score. Results: Mean EFT was significantly higher in the high-risk group than in the low-risk group (4.34±0.62 vs. 5.37±1.0; P<0.001). EFT was positively correlated with CHA2DS2-VASc score (r=0.577, P<0.001). According to receiver operating characteristics (ROC) analysis, EFT value of 4.4 mm was found to be predictive of high risk in CHA2DS2-VASc score with 80% of sensitivity and 79% of specificity (C-statistic = 0.875, P<0.001, 95% confidence interval [CI] = 0.76-0.90). And according to multivariate logistic regression analysis, EFT was an independent predictor of high thromboembolic risk in terms of CHA2DS2-VASc score. Conclusion: Our findings suggest that echocardiographic EFT measurement could provide additional information on assessing cardiovascular risks, such as thromboembolic events, and individuals with increased EFT should receive more attention to reduce unfavorable cardiovascular risk factors and the development of future cardiovascular events.