N-terminal pro-brain natriuretic peptide used for the prediction of coronary artery stenosis

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BACKGROUND: The level of the inactive N-terminal fragment of pro-brain (B-type) natriuretic peptide (NT-proBNP) is a prognostic marker in patients with acute and chronic coronary artery disease (CAD). It might also be valuable for non-invasive diagnosis of coronary artery disease. MATERIALS AND METHODS: The NT-proBNP was measured in 781 consecutive patients with normal left ventricular function referred for coronary angiography owing to symptoms or signs of CAD. The diagnostic value of NT-proBNP was assessed for predicting CAD at angiography. RESULTS: Elevated NT-proBNP levels were associated with the extent of CAD and with the female sex (P < 0.001). The ability of NT-proBNP to predict significant coronary disease at angiography was assessed separately for men using a cut-off point of 85 pg mL(-1), positive likelihood ratio 2.2 (95% CI, 1.7-3.0), negative likelihood ratio 0.53 (95% CI 0.45-0.63) and area under the receiver-operating-characteristic (ROC) curve 0.72: for women, it was assessed using a cut-off point of 165 pg mL(-1), positive likelihood ratio 2.4 (95% CI, 1.7-3.4), negative likelihood ratio 0.55 (95% CI, 0.44-0.70) and area under ROC curve 0.71. In multiple logistic-regression analysis, NT-proBNP added significant independent predictive power to other clinical variables in models predicting CAD (odds ratio 2.76, 95% CI, 1.76-4.32, P < 0.001). CONCLUSIONS: The NT-proBNP is a marker of non-obstructive CAD and of significant coronary stenosis. In conjunction with other clinical information, measurement of NT-proBNP with the use of sex-specific reference ranges may improve the non-invasive prediction of CAD.