The influence of clinical risk factors on pre-operative B-type natriuretic peptide risk stratification of vascular surgical patients

B M Biccard, G A Lurati Buse, C Burkhart, B H Cuthbertson, Miodrag Filipovic, S C Gibson, E Mahla, D W Leibowitz & R N Rodseth

The role of the revised cardiac risk index in risk stratification has recently been challenged by studies reporting on the superior predictive ability of pre-operative B-type natriuretic peptides. We found that in 850 vascular surgical patients initially risk stratified using B-type natriuretic peptides, reclassification with the number of revised cardiac risk index risk factors worsened risk stratification (p < 0.05 for > 0, > 2, > 3 and > 4 risk factors, and p = 0.23 for > 1 risk factor). When evaluated with pre-operative B-type natriuretic peptides, none of the revised cardiac risk index risk factors were independent predictors of major adverse cardiac events in vascular patients. The only independent predictor was B-type natriuretic peptide stratification (OR 5.1, 95% CI 1.8-15 for the intermediate class, and OR 25, 95% CI 8.7-70 for the high-risk class). The clinical risk factors in the revised cardiac risk index cannot improve a risk stratification model based on B-type natriuretic peptides.