

Prognostic assessment in COPD without lung function: The B-AE-D indices

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Several composite markers have been proposed for risk assessment in chronic obstructive pulmonary disease (COPD). However, choice of parameters and score complexity restrict clinical applicability. Our aim was to provide and validate a simplified COPD risk index independent of lung function. The PROMISE study (n=530) was used to develop a novel prognostic index. Index performance was assessed regarding 2-year COPD-related mortality and all-cause mortality. External validity was tested in stable and exacerbated COPD patients in the ProCOLD, COCOMICS and COMIC cohorts (total n=2988). Using a mixed clinical and statistical approach, body mass index (B), severe acute exacerbations of COPD frequency (AE), modified Medical Research Council dyspnoea severity (D) and copeptin (C) were identified as the most suitable simplified marker combination. 0, 1 or 2 points were assigned to each parameter and totalled to B-AE-D or B-AE-D-C. It was observed that B-AE-D and B-AE-D-C were at least as good as BODE (body mass index, airflow obstruction, dyspnoea, exercise capacity), ADO (age, dyspnoea, airflow obstruction) and DOSE (dyspnoea, obstruction, smoking, exacerbation) indices for predicting 2-year all-cause mortality (c-statistic: 0.74, 0.77, 0.69, 0.72 and 0.63, respectively; Hosmer-Lemeshow test all $p>0.05$). Both indices were COPD specific (c-statistic for predicting COPD-related 2-year mortality: 0.87 and 0.89, respectively). External validation of B-AE-D was performed in COCOMICS and COMIC (c-statistic for 1-year all-cause mortality: 0.68 and 0.74; c-statistic for 2-year all-cause mortality: 0.65 and 0.67; Hosmer-Lemeshow test all $p>0.05$). The B-AE-D index, plus copeptin if available, allows a simple and accurate assessment of COPD-related risk. Copyright © ERS 2016.