



Differences in pulse wave velocity, total arterial compliance and their relationship to QRISK®2 in COPD compared to controls matched for cardiovascular risk

Abstract P21 Figure 1

P22 DISTRIBUTION AND PREDICTION OF 10-YEARS RISK FOR CORONARY HEART DISEASE IN COPD

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Introduction Cardiovascular disease (CVD) is the leading cause of morbidity and mortality in COPD in excess of the effect of smoking. Clarification of cardiovascular risk factors could clarify the extra risk and lead to appropriate clinical management. We hypothesise that COPD increases the 10 year risk for CVD in patients free of clinically overt CVD.

Methods Using data from ARCADE study, 382 stable patients with COPD free from CVD and 143 controls were assessed for; lung function (forced expiratory volume (FEV₁), forced vital capacity (FVC) and their ratio), blood pressure (BP), BMI, aortic pulse wave velocity (PWV) and number of exacerbations. In addition, medical and smoking history were recorded and used to calculate the Framingham risk score (FRS).¹

Results Patients with COPD had greater FRC, 24 (8) than controls, 19 (9), p < 0.001. The majority of patients were at high risk, 72%, while only 7% were at low risk. There was no difference between genders. Post hoc analysis showed patients at high risk of CVD had greater aortic stiffness, 10.2 (2.4) m/s compared to patients at low, 8.3 (2) m/s and moderate risk, 9.1 (2) m/s, p < 0.001. The FRS was related to age, r = 0.39, p < 0.001, waist circumference, r = 0.11, p = 0.026, and number of exacerbations, r = 0.10, r = 0.039, but was not related to FEV₁.

Conclusion The majority of our patients were at high risk of developing fatal and non-fatal cardiovascular events. Early identification of cardiovascular risk factors and aggressive management would contribute to lowering the incidence of CVD in COPD.

REFERENCE

- 1 D'Agostino RB, Grundy S, Sullivan LM, et al. Validation of the Framingham coronary heart disease prediction scores: results of a multiple ethnic groups investigation. *JAMA* 2001;**286**:180-187