Abstract

Introduction: potential impairment of lung function in type 2 diabetes mellitus (DM2) patients has been insufficiently studied. Recent studies have shown increased levels of low intensity inflammatory markers in diabetic patients, which may affect pulmonary function. The objective of this study was to determine if lung function of patients with DM2 is different from that of patients without DM. Patients and method: this was a community based observational cross-sectional study in adult patients with DM2, and in age and sex-matched controls without DM2. The base source from which diabetics were selected was that of the Asociacion Colombiana de Diabetes in Bogotá. In all subjects, blood samples were taken for fasting blood glucose and glycosilated hemoglobin levels, and pulmonary function tests were performed. Mean residual values were obtained for FEV1, FVC and VEF1/CVF relation, both for diabetics and for controls, and multiple least squares regression was used to adjust for differences in known determinants of lung function (age, sex, height, smoking history, and wood smoke exposure). Results: data were obtained from 262 diabetics and 262 controls. The proportion of women was 51% and average age was 50 years, both for diabetics and controls. After adjustments with linear regression, diabetics had lower VEF1 (-91 mL, IC95%: -115, -74; P<0.0001), CVF (-212 mL, IC95%: -225, -199; P<0,0001), y higher VEF1/CVF relation (0.030%, IC95%: 0.027 a 0.034, P<0.0001). Conclusions: subjects with DM2 had lower forced vital capacity (FVC) and lower forced expiratory volume in one second (VEF1) than those without DM2, even after adjustment by known determinants of lung function, including risk factors. These findings may be associated with higher levels of inflammation mediators in DM2 patients.

Keywords

Diabetes, lung function, prognosis, risk, spirometry.