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Title: Usefulness of post bronchodilator FVC in the evaluation and spirometric evolution of COPD patients

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Body: Introduction: The rate of decline of forced expiratory volume in 1 second (FEV1) is more increased among chronic obstructive pulmonary disease (COPD) patients with bronchodilator reversibility when compared with those with no response (usually defined by the increase in FEV1). Aims and objectives: We hypothesized that forced vital capacity (FVC) would detect reversibility in more cases than FEV1 and that this finding would correlate with an increased FEV1 decline. Methods: Retrospective analysis of COPD patients evaluated at an outpatient's clinic between 2005 and 2011. Inclusion criteria were an age between 40 and 80 years, a smoking history of $\geq$ 10 pack/yrs and 2 years at least of follow-up. Results: 49 patients were included, 8 (16%) had a significant FEV1 increase after bronchodilators, while 19 (39%) showed a significant increase in FVC (Table 1). The mean rate of change in FEV1 was a decline of 50 ml per year. The group of patients with reversibility measured either by FEV1 or FVC had an increased rate of decline of FEV1 compared to those without reversibility ($p<0.01$). Conclusions: Post bronchodilator FVC detected more reversibility than FEV1 in this COPD patients and seems to be associated with an increased decline in lung function.

Table1

	Value (total 49)
Age, years	68±8
Female sex, %	57
BMI, kg.m-2	23±3
GOLD Stage I, %	8
-Stage II, %	49
-Stage III, %	29
-Stage IV, %	14
Smoking history, pack/year	38±11

Annual change of FEV1, ml/year	-50±88
FEV1 reversible group, %	16.3
-Annual change of FEV1, ml/year	-142±113
FVC reversible group, %	38.8
-Annual change of FEV1, ml/year	-94±86

Data are presented as mean ± SD unless otherwise indicated. BMI: Body mass index.